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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (24 Sep 70) FOR OT UT 70B034 1 October 1970

SUBJECT: Senior Officer Debriefing Report: COL Donn A. Starry, CO, 11th Armored Cavalry Regiment, Period 7 December 1969 to 7 June 1970 (U)

SEE DISTRIBUTION

1. Reference: AR 1-26, subject, Senior Officer Debriefing Program (U) dated 4 November 1966.

2. Transmitted herewith is the report of Col Donn A. Starry, subject as above.

3. This report is provided to insure appropriate benefits are realized from the experiences of the author. The report should be reviewed in accordance with paragraphs 3 and 5, AR 1-26; however, it should not be interpreted as the official view of the Department of the Army, or of any agency of the Department of the Army.

4. Information of actions initiated under provisions of AR 1-26, as a result of subject report should be provided ACSFOR OT UT within 90 days of receipt of covering letter.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
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17 AUG 1970

AVHGC-DST

SUBJECT: Senior Officer Debriefing Report - Colonel Donn A. Starry

Assistant Chief of Staff for Force Development
Department of the Army
Washington, D. C. 20310

1. Reference para 6, AR 1-26.

2. Attached are three copies of the Senior Officer Debriefing Report prepared by Colonel Donn A. Starry. The report covers the period 7 December 1969 - 7 June 1970, during which time Colonel Starry served as Commanding Officer, 11th Armored Cavalry Regiment.

3. Colonel Starry is recommended as a candidate guest speaker at appropriate service schools and joint colleges.

FOR THE COMMANDER:

1 Incl
as (trip)
2 cy wd HQ DA

[illegible]
Major General

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INCL 1

AVIC-CC 12 June 1970

SUBJECT: Senior Officer Debriefing Report--11th ACR, 7 Dec 69 to 7 June 70 (RCS CSFOR-74)

TO: Commanding General
United States Army Vietnam
ATTN: ACofS, G3: DST
APO SF 96375

IAW AR 1-26, 4 Nov 66 and USARV Reg 1-3, 1 June 68, submitted herewith is the senior officer debriefing report of the Commanding Officer, 11th Armored Cavalry Regiment.

a. Country: Republic of Vietnam and Kingdom of Cambodia

b. Debrief report by: Donn A. Starry
COL 510-22-2130

c. Duty assignment: CO, 11th ACR

d. Inclusive dates: 7 Dec 69 to 7 Jun 70

e. Date of report: 12 Jun 70

Donn A. Starry
DONN A. STARRY
Colonel, Armor
Commanding

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INCL

TABLE OF CONTENTS

INCLOSURES

1. This report is in nine parts, whose purpose and scope is set forth seriatim below:

a. Part I - Constraints. Describes the constraints of weather, terrain, enemy, time of year, and other limiting features within which framework this report must be considered.

b. Part II - The environment. Describes the effect of the environment on the employment of armor.

c. Part III - The enemy. Describes weaponry, tactics, techniques, and operating characteristics of enemy forces.

d. Part IV -GVN forces and programs. Describes highlights of GVN operations and programs observed or supported by the Regiment

e. Part V - Tactical operations and training of the 11th ACR. Describes operational tactics, techniques, training, intelligence, communications - electronics, and air cavalry, fire support operations of the Regiment.

f. Part VI - Maintenance, logistics, and administrative operations of the 11th ACR. Describes Regimental maintenance and logistics support structure and operations, and administrative support of the Regiment.

g. Part VII - Organization and equipment of the 11th ACR. Describes organization and major equipment items of the Regiment; evaluates and recommends additional organizational requirements, equipment modifications, evaluation of modifications, and additional equipment requirements.

h. Part VIII - Recommendations. Summarizes recommendations of Parts II through VII above.

2. Rationale. Most aspects of Regimental operations, administration, and logistics are adequately recorded in reports other than this. This report does not repeat existing reports, but draws from them in some cases to illustrate or reinforce an observation, a conclusion, a recommendation. The Regiment has been extensively modified--by MTOE, by ENSURE, by equipment loaned in excess of authorization, by internal reorganization and grouping. Tactics and techniques have been developed to suit the enemy and the environment. No single record of all these changes could be found. Therefore this report seeks to record how the Regiment was organized, equipped, and how it operated during the reported period. The report will generally describe what was, how it worked, and judge its effectiveness. Conclusions follow, and lead to recommendations for actions to be taken based on Regimental experience which might benefit the Army as a whole, in Vietnam and elsewhere. Where appropriate, amplifying details are appended.

3. Background references reviewed and found to be generally valid include FM 17-95, the Armored Cavalry Regiment, the report on Mechanized and Armor

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Combat Operations Vietnam (MACOV), HQ, USARV, April 1967, Armor School ST 17-1-3, "Armor Operations in Vietnam", and Armor School ST 17-1-1, Armor reference data.

Part I - Constraints

4. The Area of Operations was northern III CTZ, primarily northern Phuoc Long, central and northern Binh Long, and northeastern Tay Ninh Provinces, with minor forays into northern Binh Duong, southern Phuoc Long, western and northwestern Tay Ninh Provinces. In May - June 70 the Regiment operated in the Mimot-Snuel areas in the Kingdom of Cambodia. (See map 1).

5. Terrain in the area of operations, described in detail in existing publications, is highlighted in Inclosure 1. The terrain varied from heavy jungle in Phuoc Long to relatively open uplands in central Binh Long and eastern Cambodia, especially in and around the rubber plantations, to defoliated but partly regrown jungle in northeastern War Zone C. Paddy land and precipitous elevations were the only types of Vietnam terrain not encountered. Vegetation and drainage systems impeded going more than any other factors.

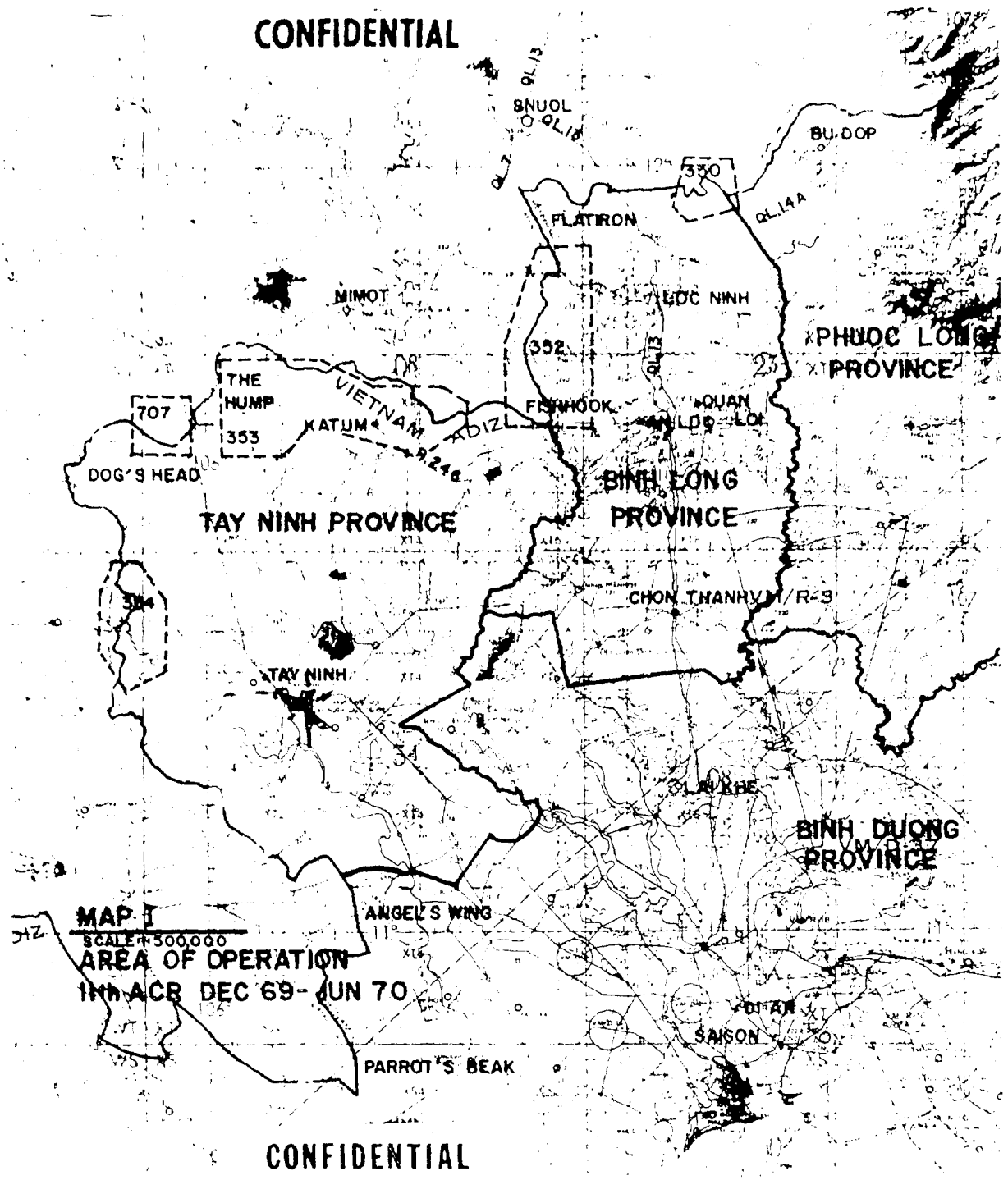
6. Weather was dry season (northeast monsoon) throughout. Transitional weather in December and again in late May and June affected but did not seriously impede going. (See Inclosure 1).

7. Enemy was primarily regular NVA--three Regiments of the 7th NVA Division (141st, 165th, 209th) deployed at various times from northern Phuoc Long to northeastern Tay Ninh, and 95C Regiment of the 9th VC Division in Jan - Apr 70 in north-central and western Tay Ninh. The 101st Regiment, a unit of SR-1 was encountered near the Minh Thanh rubber plantation where it located for refitting during Jan to Apr 70. Throughout, the 50th Rear Service Group supplied the 101st Regiment and operated the supply system from Cambodia south into the Saigon River Corridor. D368, a VC local force unit, was a frequent antagonist in Binh Long, primarily in Loc Ninh District. (See Inclosure 2).

8. Friendly forces. During the entire period the Regiment was OPCON the 1st Cav Div (AM). Only once, briefly, during the period was the Regiment employed with all troops and squadrons under Regimental control. This report includes the experiences of all Regimental elements regardless of OPCON arrangements. The Regiment was reinforced from time to time by OPCON infantry units of the 1st Cav Div (AM). Where appropriate, experience with these units is reflected in this report.

Part II - The Environment

9. a. The effect on armor operations of weather and terrain is adequately assessed by the analysis of "going" for armor and mechanized equipment



set forth in the MACOV study, and in Armor School ST 17-1-3. Current engineer terrain analyses, probably technically the best the Army has ever had, do not adequately describe "going" for armor in Vietnam. This is so because engineer terrain studies are generally conservative, based on the premise that it is better to have units find they can go where the terrain study says they cannot go, than to have units bogged down in an area listed as "good going". The effect of this philosophy is far reaching, for not only does it impact on unit operations, but it also affects force structure decisions concerning the mix of armor that is capable of being employed in an area.

The MACOV going maps were compiled from an extensive study of where armor units in Vietnam had actually been, and where, based on their experience, commanders judged they could go. The study was done on maps of scale 1:50,000 and reduced to sketch maps for ease of presentation in the MACOV report. At the unit level there is no organized scheme for collecting and recording "going" data at a map scale that can be used by units in the field and later reduced in scale for long range area studies and other requirements. A program to record and publish such data would assist field commanders, and be of considerable assistance to higher level staffs and commanders in area studies involving force structure decisions. Of considerable interest would be a study of the correlation between estimates of "going" based on engineer terrain studies, and those based on actual field experience.

b. Conclusions.

(1) There is a requirement for a program to collect and record "going" data for armor units and equipment in Vietnam, showing precisely where armor can operate during each season of the annual weather pattern in the several types of terrain in the area.

(2) "Going" data at scales 1:50,000 and 1:100,000 should be compiled, reprinted, and made available to field units.

(3) At scales larger than 1:100,000 "going" data should be made available to commanders and force planners at all levels.

(4) "Going" data based on field experience should be studied, together with "going" estimates based on engineer terrain studies, to see if correlation factors between the two can be derived to be applied in other areas where actual "going" experience is not available.

c. Recommendations. That appropriate headquarters and agencies take necessary action to:

(1) Collect, collate, and republish for field use comprehensive "going" maps for armor in Vietnam at scales 1:50,000 and 1:100,000

(2) Reduce Vietnam "going" data for armor to appropriate scales for use by higher headquarters in force planning and unit deployment decisions.

(3) Study the correlation between field "going" experience and esti-

mates of "going" based on engineer terrain studies to develop correlation factors for application in areas where no field "going" data is available.

Part III - The Enemy

10. The enemy--an overview. (See Inclosure 3).

a. The majority of enemy forces encountered were regular NVA units, primarily the 141st, 165th and 209th Regiments of the 7th NVA Division, and 95C Regiment of the 9th VC Division. The reason for this is that the Regiment was deployed primarily along, and later across, the Cambodian border. Through March it was normal for 7th NVA Division units to remain in Cambodian sanctuaries and periodically move into South Vietnam to attempt to ambush units of the Regiment. 95C was encountered in his traditional area around Katum in January, suffered heavy losses in several sharp fights with 1st Squadron, and by April had moved west and south and reappeared operating out of base area 354, where he again encountered elements of the 1st Squadron. The 165th and 209th Regiments, moved from the northern Binh Long border area where they had been since December and entered northeastern War Zone C in March, apparently in an attempt to hold open the Saigon River infiltration routes which were heavily interdicted by 2d Squadron using a cavalry screen laced with automatic ambushes. Combativeness of enemy units varied a great deal. 95C has a history of preferring to stand and fight regardless of the cost. On the other hand, the Regiments of 7th NVA Division have never displayed much stomach for fighting armored cavalry. Regardless of their combativeness, NVA units are generally a less elusive and less clever enemy than their local force counterparts. However they are tougher in many respects, and fighting them required different operational techniques than when fighting local forces. Better armed than guerrillas, regular units fight as units, and have the same problems of fire and maneuver coordination on the ground as any regular force. Especially in the 7th NVA Division there appeared to be great concentration early in 1970 on trying to coordinate supporting fires with maneuver forces. Field telephone wire was often encountered well forward, and other indicators increased in frequency sharply as the 209th and 165th moved into the Saigon River Corridor to attack 2d Squadron in March - April. In supporting his operations in South Vietnam the enemy depends heavily on an intricate system of trails and pathways through jungle, along streams, in and out of way station base camps. These infiltration systems are operated by Rear Service Groups, but when they are successfully interdicted regular NVA units may be committed to their defense and attempted reopening. In December - January 2d Squadron interdicted the Serges Jungle Highway in northwestern Phuoc Long Province. The Serges trail system supports operations into the Song Be River Corridor, and has long been a major infiltration axis. The enemy responded with a series of ambush type attacks by 7th NVA Division units designed to draw the Squadron away from the main Serges Highway axis. In March - April 2d Squadron, making extensive use of automatic ambushes, effectively cut the Saigon River Corridor through War Zone C. The 50th Rear Service

Group, operating the system responded by trying to outflank the ambush network. At the same time, 7th NVA Division moved two regiments into the area to try to reopen the trail system. In situations like this the enemy is extremely trail bound, and will continue to use the trails even though he knows them to be ambushed. His counter tactics included use of outflanking trail systems and the sending of two or three men ahead of the main carrying party. In the latter method if the ambush were tripped the loss was less than if the whole party entered the ambush grouped. There was no indication of how these lead scouts were selected!

b. Conclusions. In border areas the enemy is almost totally dependent on an intricate system of trails, pathways, and temporary base camps along which he moves personnel and supplies into South Vietnam. Detection, pattern analysis, and interdiction of these trail systems are of paramount importance in border area operations. The trail systems should be interdicted close to the border before they branch out into a thousand smaller trails; the cost in manpower, time and energy is much less than if the system is allowed to spread like cancer deep into the countryside.

c. Recommendations. That increased planning and operational emphasis be placed at appropriate levels on conducting effective border interdiction operations to break up and choke off enemy infiltration of men and supplies as they enter South Vietnam, or as soon as possible thereafter.

11. Enemy weapon systems.

a. Detailed at inclosure 3, enemy weapons encountered included his infantry weapons family through heavy mortar and outsize rockets. His indirect fire weapons were used primarily in standoff attacks against cavalry laagers. His RPG weapons were used in all types of operations. His .51 cal AA weapons were used primarily in attempted LZ ambushes, and against reconnaissance and command-control aircraft. Starting in April .51 cal AA weapons were extensively used in War Zone C in an attempt to lift visual reconnaissance off his trail system as he moved the 165th and 209th Regiments in to try to reopen the Saigon River Corridor. Weapon for weapon a regular NVA unit outguns a US infantry unit in organic firepower, due primarily to the enemy RPG weapon family. Hence, US infantry relies heavily on external firepower - air and artillery - to counter the enemy superiority in close-in weapon systems. This situation in turn gives rise to the standard infantry tactic of pulling back on contact, bringing fire to bear, then moving back into the contact area. Unless the fight is very skillfully handled, the enemy can get away from supporting fires in a situation like this. He calculates reaction times, frequently monitors air and artillery request nets, knows the operational pattern, and reacts accordingly. Armored cavalry, on the other hand, outguns the enemy organically, and is the only US ground combat unit that can close with the enemy to destroy him in the classic sense. Not that supporting fires are not used with armored cavalry; they are used - primarily to block escape and reinforcement routes while the cavalry force closes with the enemy . The disparity in organic fire-

power between US infantry and NVA regular units, and between US infantry and armored cavalry points up the need for improved organic weapons systems for US infantry units.

b. Conclusion. There is a requirement to improve the organic weapon system capability of US infantry, so that with its vastly superior supporting fires, US infantry can once again equal or better the enemy in organic weapon systems capability. Such a system would greatly enhance the staying power of US infantry; at the same time it should improve the infantry capability to close with and destroy the enemy.

c. Recommendations. That necessary action be taken by appropriate agencies to create requirements for and to develop a weapon system to be organic to US infantry units that will equal or better the RPG 7 weapon system capability now possessed by the NVA.

12. Enemy tactics and techniques.

a. Stand off attacks by fire, sapper raids, and ambushes were primary enemy tactics used against the Regiment. In all operations, particularly those requiring coordination of fires and maneuver elements, the NVA enemy proved to be a careful and meticulous planner in every aspect from training to reconnaissance to conduct of the attack to getaway tactics. Examples are included in Inclosure 3.

b. Early in 1970 several regular NVA units were withdrawn from South Vietnam, given extensive sapper training at Cambodian bases, then reintroduced in South Vietnam to attack fire bases. One such attack on FSB Carolyn against 'A' Troop and an ARVN infantry company resulted in loss of the entire sapper force. (Summary of action at inclosure 3). In February and March some elements of the 165th and 209th Regiments were given 30 days of training in Cambodia in anti-armor operations before these Regiments entered War Zone C in March to fight 2d Squadron. Other than attacks by fire and sporadic meeting engagements, enemy attacks on Regimental units were usually set up as ambushes, using the familiar 'L' geometry. One such attack is described in Inclosure 3. None of these ambushes was really successful; each was apparently prematurely triggered, or somehow upset by a different event, or sequence of events. In one case the 'L' was set up on ground lower than the trail along which the armor was moving. Fired from bunkers, fifty or more RPG rounds landed short of the vehicles and there were no friendly losses. His RPGs gone, the enemy was easy prey to a sharp ground attack which overran his position.

c. The NVA small unit commander is a creature of habit, coming back time after time to the same area to set ambushes, and even using the same bunkers and trench lines. In Binh Long Province, 7th NVA Division units consistently tried to ambush in the rubber plantations despite the fact that overwhelming cavalry firepower invariably decimated the

attacking force. Kill ratios in fights in the rubber ran almost 40 to 1 as opposed to about 15 to 1 in jungle; yet he persisted in wanting to fight in the rubber. Another form of ambush, a favorite of NVA forces, was the classic landing zone ambush, wherein he positioned .51 cal AA guns around a previously used LZ, then attempted to entice US forces into an airmobile assualt. One such ambush is detailed in Inclosure 3. Attacks by fire on forward fire bases tended to be the enemy's most profitable form of attack from a relative loss standpoint. All these attacks were preceded by extensive detailed reconnaissance. Preparations for ground followup were made, although ground attacks were seldom, if ever, made on cavalry laagers once the volume of defending fires became apparent.

d. Conclusions. Enemy reliance on relatively few operational techniques, his propensity for repeating past actions in stereotype, and his apparent need for extensive planning, reconnaissance, and preparation, can make it fairly easy for an alert unit to detect early signs of impending attack and take appropriate action. Training in these matters is considered essential and has been incorporated into in-country replacement training in the Regiment.

13. Enemy land mine warfare.

a. In approximately 12 months of operations along and across the Cambodian border the enemy used over 1000 anti-tank mines against the Regiment. The monthly mine incident rate rose from 20 plus in June 1969 when the Regiment moved to Binh Long, to over 120 per month in October and stayed near the 100 level until the Regiment moved into Cambodia in May 1970. Mine data is at Inclosure 3.

b. Virtually all mines encountered were manufactured CHICOM or NVA mines: 20 - 30 pounds of explosives in a metal case with a single or triple well detonator. Mines accounted for over 95% of the 427 vehicles which were combat losses from June 69 to June 70. 352 vehicles were combat losses to mines during the period of this report. Enemy mining followed Regimental operations - that is, he normally did not begin mining operations until after tracked equipment began to operate in an area. Mines were generally planted along roads, road shoulders, tank busts in jungle, and occasionally seeded at random around key enemy base areas to impede vehicular movement into the area.

c. The Regimental counter-mine program was based primarily on the AN/PPS 153 mine detector. This detector was TO&E equipment; additional equipment was issued to the Regiment, in excess of authorized allowances, until there were finally on hand 25-30 detectors in each squadron. Although the AN/PPS 153 is satisfactory for clearing a lane through a minefield, it does not meet the requirements of the enemy mining threat described above. For an extended period of time the Regiment was daily physically sweeping over 100 kilometers of road in Binh Long Province. As a result of experience, command emphasis, and extensive use of the

AN/PPS 153 the find/hit ratio rose from null in June 69 to over 60% early in 1970, and remained at or near that level.

(1) In addition to use of the AN/PPS 153, ambushes and sniper teams were employed near heavily mined areas. These enjoyed but limited success, partly due to the lack of enough organic infantry to set a good dismounted ambush, and partly due to the terrain along the roads.

(2) An ENSURE request resulted in issue of several 20 ton mine rollers. These proved unsatisfactory; they were impossible to lift except in component parts and with an M88; a truckload of spares and a recovery team had to accompany each roller; there was never any assurance that the first roll-over would detonate the mine. The first roller tested was blown apart by a mine and rendered junk. Subsequent models left mines to be detonated by vehicles well back in the column.

(3) A jeep-mounted mine detector, Wurlitzer 232, was procured and an attempt made to mount it on the front of an ACAV, with marginal success. The device was designed to automatically apply the jeep brakes on sensing a mine. A satisfactory bypass to use only an audible signal was never really made.

d. Although plastic cased mines were reported to be in the enemy supply systems, none were found. Plastic cased mines could be the nemesis of US and ARVN armor since there is not on hand a satisfactory non-metallic mine detector.

e. Conclusions.

(1) The single most serious problem with which the enemy confronted the Regiment was the anti-vehicular mine.

(2) With an intensified mine program the NVA could have virtually immobilized the Regiment.

(3) A plastic cased mine, employed in the numbers encountered by the Regiment in the past year, would nearly immobilize the Regiment due to the lack of a non-metallic mine detector.

(4) There is not in the US Army inventory a satisfactory mine detector for clearing extensive road networks in a short period of time, or for sweeping on extended frontages. There is no non-metallic mine detector available for field use.

f. Recommendations.

(1) That necessary action be taken by appropriate agencies to start immediately a fullscale research and development program aimed at defeating the enemy land mine capability by providing the US Army with a satisfactory high speed mine detector for use against both metallic and non-metallic mines.

(2) That appropriate headquarters take necessary steps to study effective countermine measures in use by units in Vietnam, and to devise new operational methods to defeat the mine threat with or without the development of new equipment.

Part IV - GVN Forces and Programs

14. Pacification.

a. Until 18 February the Regiment was responsible for monitoring and providing certain support for the pacification program in Binh Long Province. A summary of the status of progress in pacification is at Inclosure 4.

b. Pacification in Binh Long was a function of several factors: keeping main enemy units away from the populated areas; preventing local force attacks on population centers; weeding out the VCI; increasing the number of elected public officials; and moving ahead the rehabilitation, medical, civic, and other action programs of the GVN.

c. The Regimental contribution to pacification progress consisted of:

(1) Operations along the border to intercept and defeat enemy forces entering the area.

(2) Work with regional and popular force units to improve their effectiveness.

(3) Work with medical and other civic action programs to help give impetus to GVN programs.

d. As US forces redeployed and adjustments in troop deployments resulted, it became necessary to shift full responsibility for many of these activities directly to RVNAF without much prior warning or preparation. In some cases they were able to fill the gap admirably well; in others the void went unfilled due to insufficient resources to take up the slack.

e. Conclusions.

(1) In Binh Long Province centralized control of all GVN programs would probably prove more efficient than the system of fragmented responsibilities in force now. The proliferation of US agencies and their counterpart GVN activities is wasteful of resources, and leaves too many areas of disputed responsibility. It is recognized that having started in this way, it is not now possible to start anew. However, some means should yet be sought to bring the vast array of programs now in force under at least some central coordination.

(2) ARVN regular units must be worked away from the populated areas as soon as RF/PF, PRV, and other provincial forces are capable of protecting the populace from local enemy forces. To do this there must be the closest understanding and working relationship between the ARVN commander and the Province Chief or District Chief. Many times this did not exist, and the ARVN commander continued to perform the duties incumbent on the Province Chief in his role as sector commander. Appointment of a new Province Chief in Binh Long early in 1970 resulted in considerable progress in overcoming this problem. ARVN forces became more mobile, hence able to respond to major cross-border incursions by NVA forces. Close-in security of population became more the responsibility of Provincial forces. However the success of the whole system hinged on the personal relationships between the ARVN Commander-in this case CO, 9th Regiment - and the Province Chief in his capacity as Sector Commander.

f. Recommendations. That at an appropriate level of command a program be undertaken to gradually reduce the number of US agencies and activities involved in fostering or supporting GVN programs; at the same time the GVN should be encouraged to reduce proliferation of their effort in order to bring into being more centralized coordination and a clearer definition of responsibilities, especially at Province level.

15. Operations of the ARVN

a. The Regiment worked during the period with elements of the 5th ARVN Division, primarily with the 9th ARVN Regiment of that Division, and with both the 1st and 15th ARVN Armored Cavalry Regiments (squadron size organizations - two ACAV troops and a tank company). Although weaknesses were apparent at the junior officer-NCO level, and some battalion commanders were not outstanding, the 5th Division is well and professionally led. The Division continues its efforts to move out from population centers and take up a more mobile role in the defeat of main NVA forces. ARVN armor appears to be only as effective as the Regimental commander. The 1st is a good Regiment; the 15th is not.

b. The ARVN logistics system, especially that for armored vehicles is not geared to extensive operations of the type conducted by US armored cavalry. The Vietnamese have been reluctant to use their armor - it breaks down and is hard to fix. But, because they do not use it, and it does not break down, the demand stimulated supply system does not react. Hence, the true test of ARVN's ability to operate extensively with all units, especially armor, in border areas is yet to come.

c. Finally, mining similar to that experienced by the 11th ACR during the period would have immobilized an ARVN armor formation. They have few mine sweeps; those that they do have are frequently in need of calibration, and battery supply is a persistent problem.

d. Conclusions.

(1) While ARVN is operationally capable of moving out into a more mobile role to counter main NVA forces, the ARVN logistics system has not been fully exercised in support of a force in this role. Especially is this true for ARVN armor units. There is doubt that the ARVN logistics system could support ARVN armor in extensive border operations similar to those of the Regiment for the reported period.

(2) There is an urgent requirement for more and better mine detection equipment for ARVN units - especially armor units.

e. Recommendations.

(1) That action be taken by cognizant agencies to insure development of an ARVN logistics system capable of fully supporting ARVN, especially ARVN armor, in more mobile operations that will be required as the ARVN share of the war expands.

(2) That ARVN requirements for mine detection equipment be included in developments recommended in 13f above.

Part V - Tactical Operations and Training of the 11th ACR

16. Operational highlights.

a. Regimental operations during the period can be considered in three phases. The first phase extended from December through January and involved operations in Binh Long and northern Phuoc Long Provinces. In the second phase, February through April, the Regiment gradually phased out of Binh Long Province and shifted into War Zone C. During the second phase 3d Squadron operated in northern Binh Duong and southern Binh Long with the 5th ARVN Division; 1st and 2d Squadrons conducted the primary Regimental operations in War Zone C. The third phase began with the Regimental attack into Cambodia on 1 May and extended to the end of the reported period. During this phase the Regiment operated in and north of the Fishook, in an area of Cambodia extending generally from Mimot to Snuol.

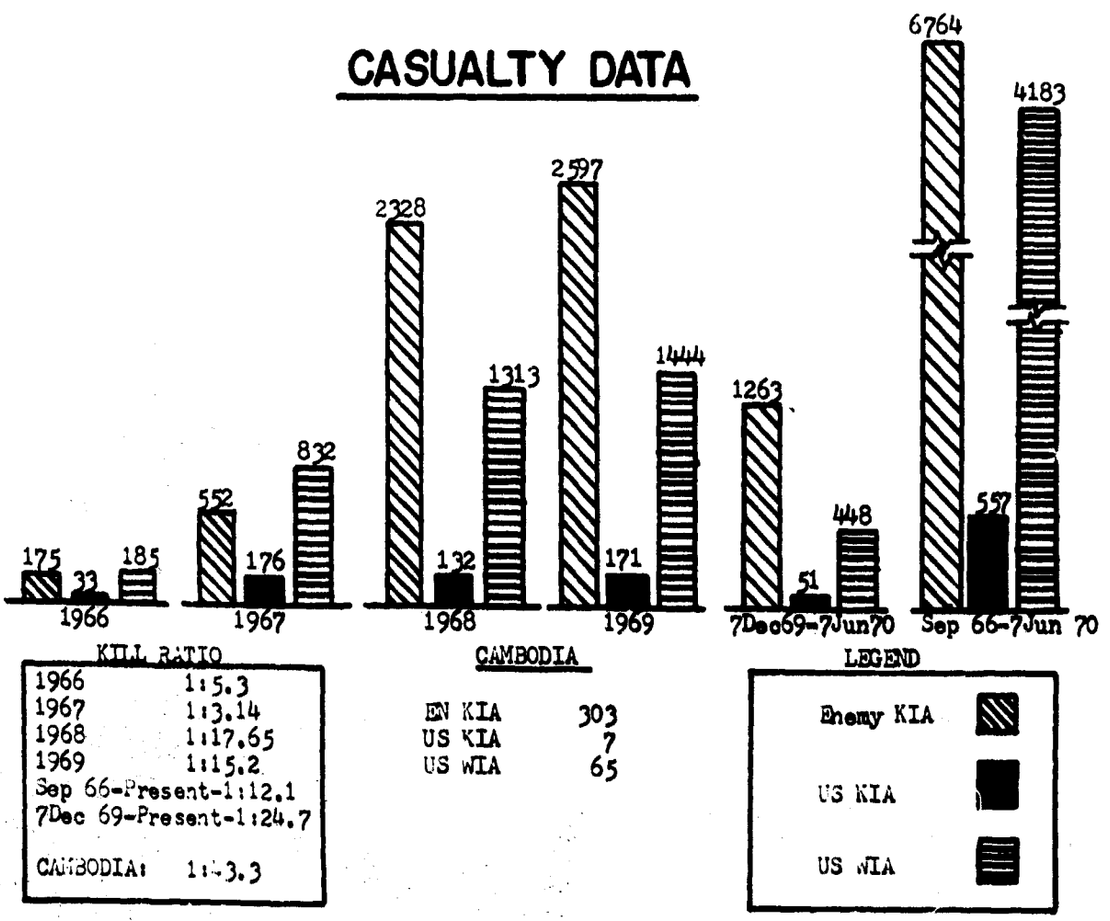
b. From December through March the Regiment operated with at least one Engineer Land Clearing Company (LCC) conducting Rome Plow operations. In December - January 2d Squadron and 984th LCC conducted land clearing operations from Loc Ninh to the Bo Duc - Bu Dop area of northern Binh Long - Phuoc Long. From January - March 1st and 2d Squadrons with 501st LCC and 984th LCC respectively conducted land clearing operations from Tonle Cham to Tay Ninh across War Zone C to destroy enemy base areas and ease allied access into this hitherto virtually impenetrable area.

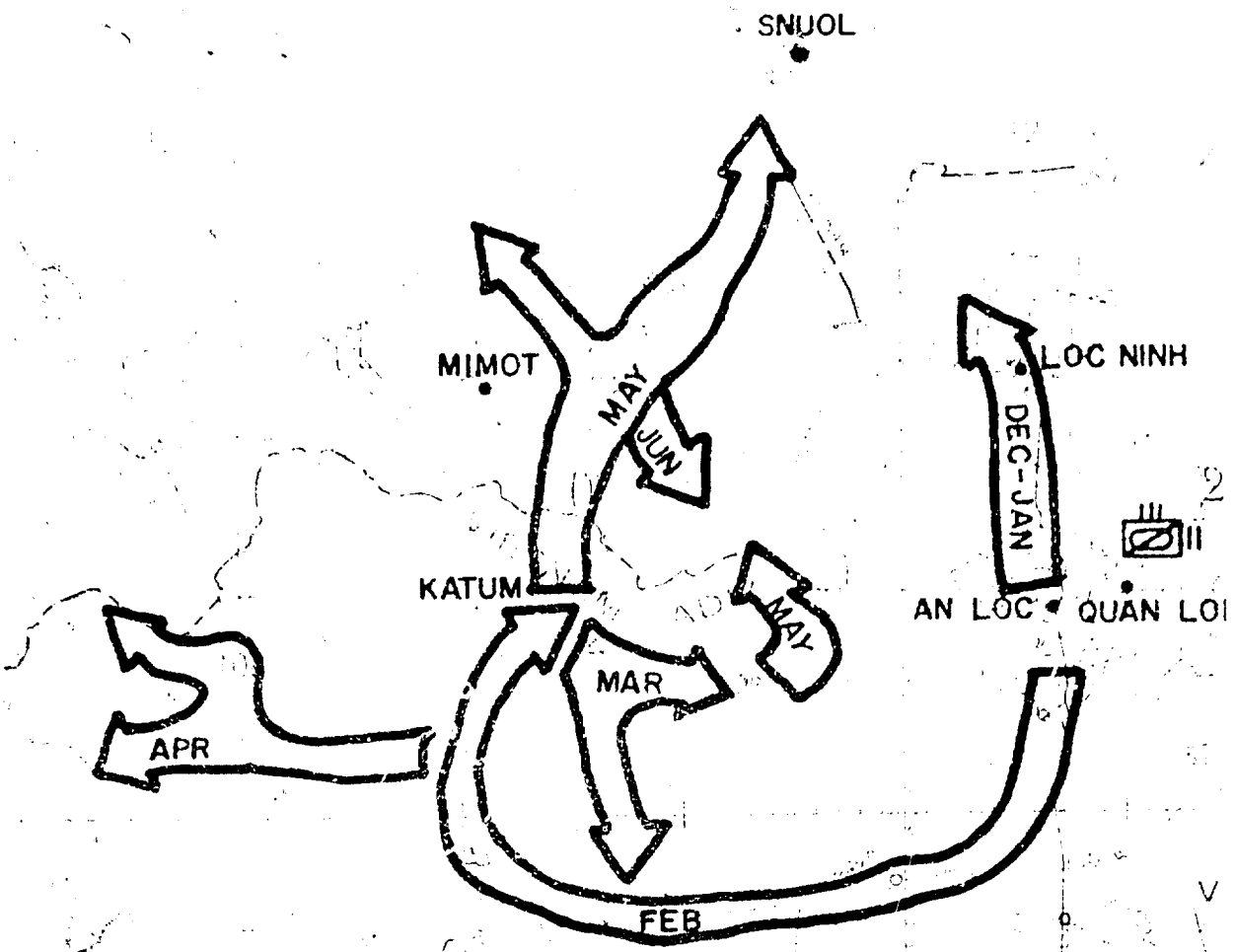
c. The Regimental Base Camp was moved from Bien Hoa to Di An in March on redeployment of 1st Infantry Division units from Di An. The Base

Camp Commander (BCC) became the Installation Coordinator for Di An. Regimental TAC forward operated from Quan Loi. Squadron combat trains operated variously out of Quan Loi, Lai Khe, and Tay Ninh; squadrons remained continuously in the field. Aviation maintenance (DS) support was conducted at Camp Frenzell, near Long Binh.

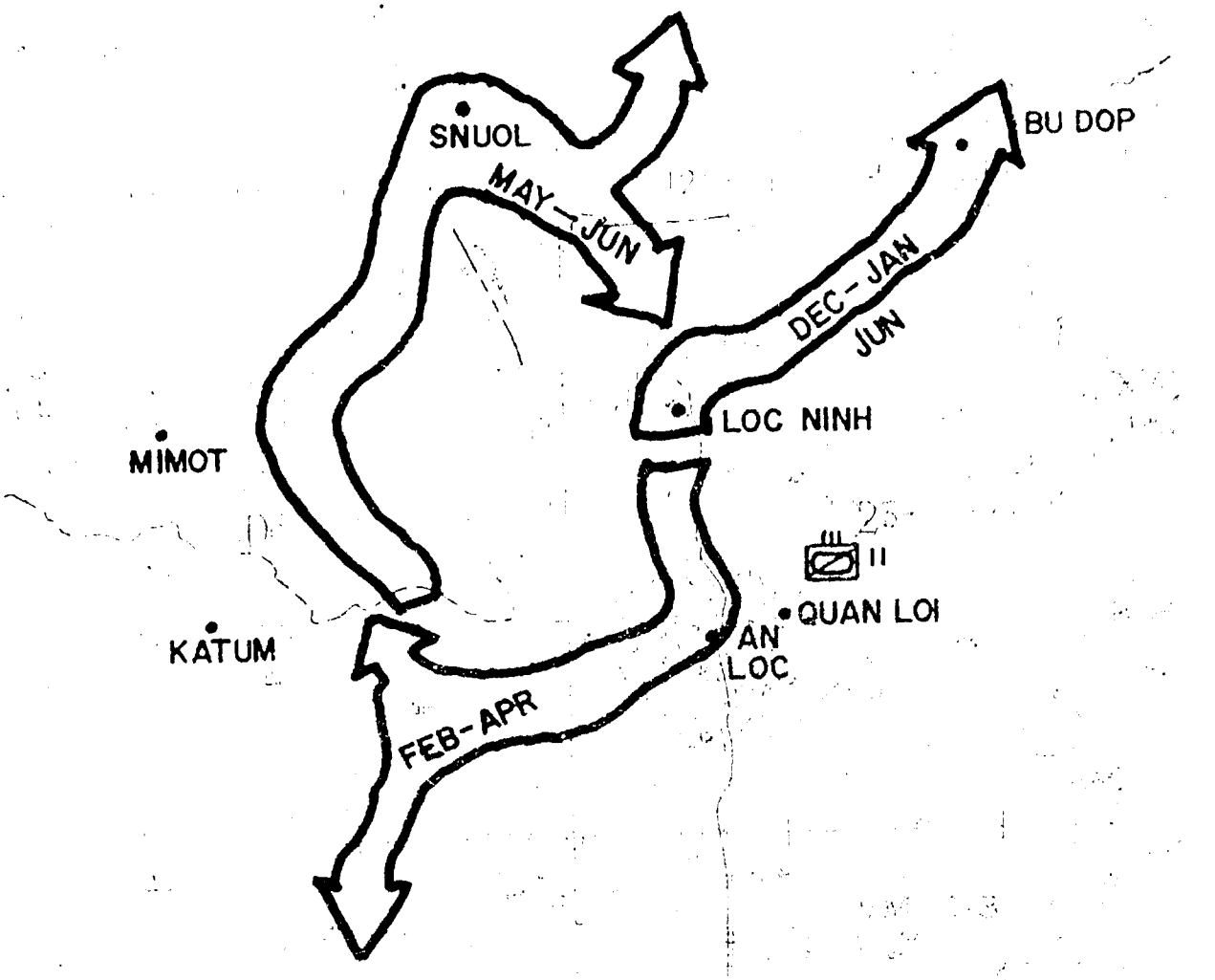
d. Maps 2a through 2c following show Regimental dispositions and movements. Inclosure 5 contains an expanded description of the above synopsis of operations for the period.

17. Operational results. In terms of enemy eliminated and KIA ratios the following chart depicts operational results for the Regiment since its deployment to Vietnam in 1966. Of note, in the box score, is the fact that during the reported period the Regiment enjoyed the most favorable kill ratio of any comparable period since it entered combat in Vietnam.

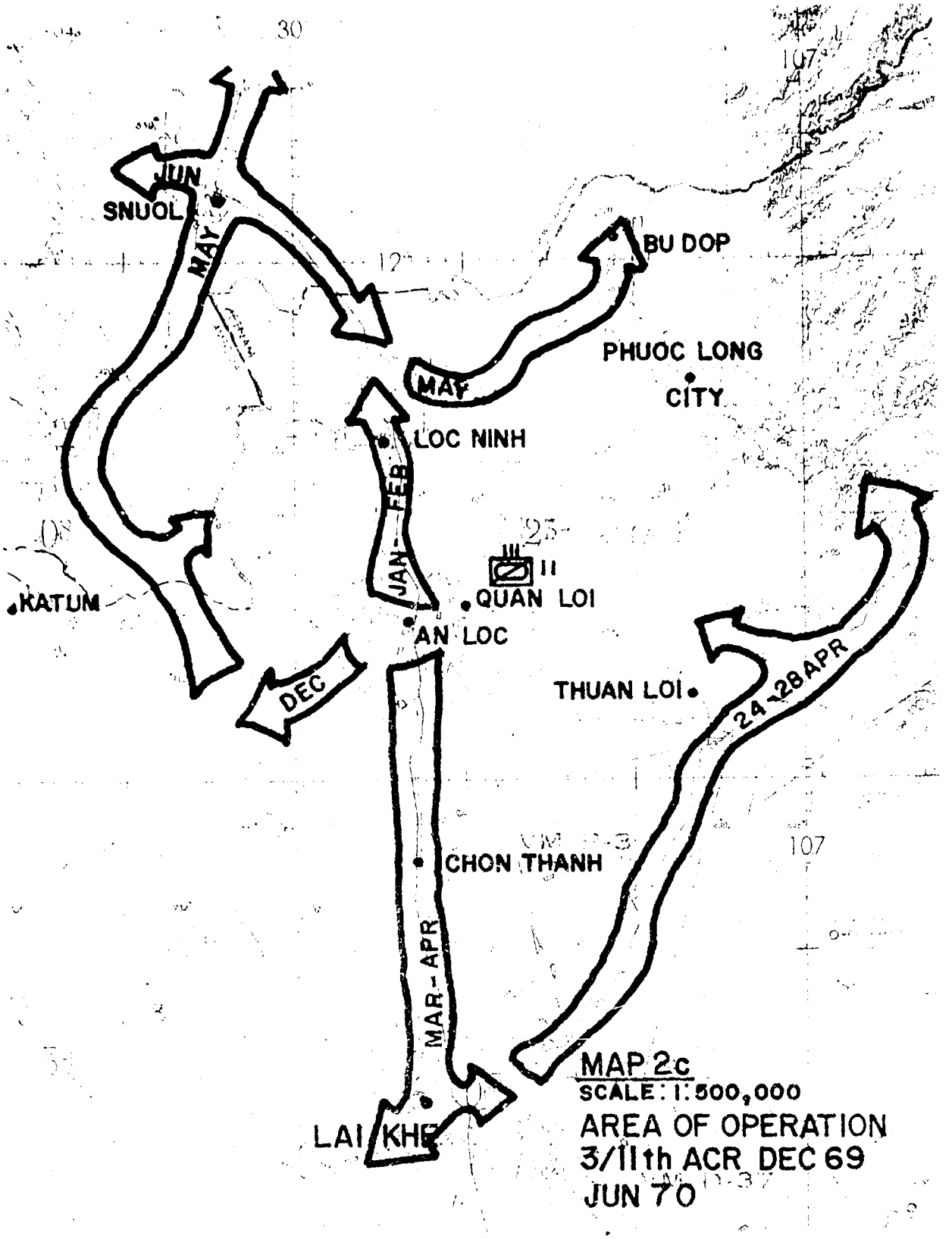




MAP 2a
SCALE: 1:500,000
AREA OF OPERATION
1/11th ACR DEC 69-JUN 70



MAP 2b
SCALE 1:500,000
AREA OF OPERATION
2/11th ACR DEC 69 - JUN 70


SNUOL
JUN
MAY
BU DOP
PHUOC LONG
CITY
MAY
LOC NINH
JAN - FEB
QUAN LOI
AN LOC
KATUM
DEC
THUAN LOI
24 - 28 APR
CHON THANH
MAR - APR
LAI KHE
MAP 2c
SCALE: 1:500,000
AREA OF OPERATION
3/11th ACR DEC 69
JUN 70

18. Organization for combat.

a. The Regiment was organized for combat with the Regimental Base Camp at Bien Hoa through 1 April, thereafter at Di An. The Cavalry Replacement School, legal section, awards and decorations section, postal unit, finance section, Regimental museum, and in-out processing detachments for R&R leave and rotation are operated at the Base Camp.

b. Regimental forward at Quan Loi included S-2/S-3 operations, S-1 operations (less those personnel operations listed in 'a' above) and all S-4 operations except property book activities which were maintained at Base Camp. The Public Information Detachment, Regimental Headquarters and Headquarters Troop, 919th Engineer Company, Air Cavalry Troop, 37th Medical Company and other attached units less minimal rear detachments operated out of the Regimental forward.

c. Squadrons maintained personnel sections, property book officers, awards and decoration operations, and small detachments for in-out processing at Base Camp. Forward support areas, to include maintenance support, operated out of Quan Loi, Tay Ninh, and Lai Khe at various times, and at squadron field locations.

19. Principles of employment.

a. Missions assigned the Regiment during the period included offense, reconnaissance, and security. Defensive operations were not conducted, except as noted in 22 below. Reconnaissance was the most frequently assigned mission. However, reconnaissance operations of the type conducted differ in some respects from those visualized by current doctrine. Once reconnaissance located the enemy, the problem was one of generating enough force at the point of contact to hold the enemy in place and destroy him. The "find the enemy then pile on" concept traditional to the Regiment remained valid with qualifications. Reconnaissance operations against both VC local and NVA forces were plagued by the old problem of where and how to conduct reconnaisance against an enemy who habitually avoids combat except at times and places of his own choice. Intelligence indicators were generally slim; seldom was there hard intelligence on which to base a reconnaissance plan. More work needs to be done on determining how to optimize force employment in reconnaissance operations against enemy forces who use these tactics.
The "pile on" concept used against VC local forces consisted of widespread reconnaissance by minimum forces - squads of the aero-rifle platoon, sections of ACAV's or tanks. On contact the force built up by rapid deployment of as many other small units as could reach the fight. When fighting regular NVA forces, reconnaissance had to be conducted by at least platoon size elements, and in most cases by troop or company. The NVA fought as units, ambush was their preferred tactic. The danger of losing a minimum size force to a well organized ambush was such that "pile on" techniques used when fighting VC locals, while still appropriate in principle, had to accomodate to the enemy. However, force generation -

the application of maximum force in minimum time was still the key to success.

b. Reconnaissance operations were therefore only a preliminary to employment of armored cavalry as a combat maneuver force. The disparity in organic and supporting firepower between NVA units and armored cavalry made it possible to employ the cavalry force as a combat maneuver force in all cases. In fact, the preponderance of organic firepower of cavalry as opposed to both enemy and friendly maneuver units made the armored cavalry squadron the most potent ground combat force on the battlefield. It is considered that this role needs to be given increased doctrinal emphasis, especially for counterinsurgency operations.

c. Conclusions.

(1) Doctrine for employment of armored cavalry as set forth in current field manuals is basically sound. Additional doctrinal emphasis needs be given the employment of armored cavalry as a combat maneuver force, especially in counterinsurgency operations.

(2) Doctrine for employment of armored cavalry in reconnaissance operations needs to be further developed in the area of design of search and detection patterns to be used against an enemy who seeks to avoid combat except at times and places he may choose.

d. Recommendations.

(1) That action be taken by appropriate agencies to increase doctrinal emphasis on the role of armored cavalry as a combat maneuver force, especially in counterinsurgency operations.

(2) That appropriate agencies create a requirement to determine optimal force employment for reconnaissance operations against an enemy who seeks habitually to elude contact. This research should not be confined to armored cavalry units alone but should include all ground combat battalion/squadron organizations.

20. Combined arms - the employment of armor and infantry

a. Infantry rifle squads were removed from cavalry platoons of the Regiment by MTOE when the Regiment was configured for deployment to Vietnam. Increasingly the absence of organic infantry was felt to be a handicap in Regimental operations. The detailed search of enemy base camps and networks, the setting of dismounted ambushes, dismounted patrolling, dismounted operations at night and other infantry type actions were conducted by dismounting crewmen from combat vehicles. As a result weapons were unmanned, and ground action was conducted by personnel not trained for the job - although before long they were quite proficient at their tasks. As a result the Regiment habitually sought attachment of infantry, and frequently used Regional Force companies, or companies of

Civilian Irregular Defense Groups (CIDG) by arrangement with local commanders. US infantry was less frequently available, and generally less adaptable to work with armor than indigenous forces because of their dislike for the noise and bulk of armored vehicles, and their fear of the organic firepower of armor units.

b. Units of the Regiment were frequently OPCON to infantry elements of the 1st Cav Div (AM). With some exceptions, infantry commanders generally did not understand the employment of armor, and initially at least, did not employ the armor to take maximum advantage of its capabilities. Some were amenable to suggestion from OPCON armor commanders; others were not. Lack of understanding of the organic firepower capability of cavalry, failure to appreciate the attendant requirement for the closest kind of control and coordination of fires when working with armor, and a lack of understanding of the synergism of combat power were the most serious areas of weakness noted. There was an almost fatal fixation with the idea of breaking the cavalry down to the lowest level with a few vehicles for each small infantry element. This reflected the need to augment organic firepower of infantry, a problem alluded to in 11 above. But it also reflected a general lack of understanding of the synergism that accrues from the employment of cavalry as an organic whole.

c. Conclusions.

(1) There is a requirement for organic infantry in armored cavalry units in counterinsurgency operations. This need can be offset by OPCON of indigenous or US infantry, but the requirement is so general and continuous that organic infantry appears the best solution. Experience during the period indicated that squad level infantry in cavalry platoons may not be the best practical solution. Additional study of this problem is required.

(2) Generally, US infantry units and commanders needed additional training in combined arms operations - the employment of armor with infantry. There was almost universal lack of understanding by infantry commanders of the capabilities and techniques of employment of armored cavalry.

d. Recommendations.

(1) That at an appropriate level action be taken to review the requirement for organic infantry in the armored cavalry regiment, especially for employment in counterinsurgency operations, with a view to providing sufficient infantry in adequate size units to cope with the infantry requirements of cavalry combat.

(2) That additional training emphasis be given at appropriate schools for infantry officers on the capabilities and techniques of employment of armor units as units, and of armor with infantry.

21. Cavalry in the offense

a. Principles of offensive operations by armored cavalry are generally adequately treated in FM 17-95 and Armor School ST 17-1-3. Formations and other employment techniques are covered in ST 17-1-3.

b. In the attack into Cambodia, an offense in the classic sense, the Regiment in turn attacked on an axis, linked up with ARVN airmobile infantry, made a forward passage of lines and continued to attack on an axis, attacked a built up area, then took up an area of operations for reconnaissance operations. This series of operations used and confirmed the validity of all current doctrinal techniques of offensive operations, control measures, fire support employment, and air cavalry operations. This operation also highlighted:

(1) The need for sound, small unit combat skills sharp enough to be employed at a moment's notice. On many occasions battle drill paid off in immediate reaction to an attempted ambush, either disrupting or defeating the ambush.

(2) The absolute requirement for air cavalry cover over an attacking column, especially in jungle. Air cavalry was used to aid navigation and to find enemy ambushes and cache sites.

(3) The necessity for commanders to command from the ground due to heavy anti-aircraft fire, an uncertain enemy situation, and problems with refugees which required on the spot decisions. For most of the first five days of the operation in Cambodia the Regiment and the two lead squadrons were commanded from the ground.

(4) The need for TACAIR on station in anticipation of enemy reaction, or when a known enemy position is to be attacked. TACAIR was used to supplement air cavalry and ARA, and on targets requiring heavier ordnance than available with air cavalry or ARA.

(5) The need for continuous artillery coverage for an attacking column. Sometimes this was provided by supporting the lead squadron with the howitzer battery of a following squadron, rather than by displacing an organic battery by platoon or section.

c. Land clearing operations should be added to the list of offensive type operations for which armored cavalry is ideally suited. True, cavalry does not have an organic land clearing capability, hence the operation requires attachment of land clearing equipment. Twice during the period the Regiment found itself clearing land in enemy base areas otherwise inaccessible, and astride major enemy trail networks leading into South Vietnam. The enemy is hard put to react to land clearing, especially when it cuts across his trail network. As indicated earlier he attempted to outflank the trail interdiction effort in War Zone C, and later moved two regiments and an anti-aircraft artillery unit in to

try and pry 2d Squadron out of the area. Regimental land clearing operations were most effective when targeted against infiltration routes close to the border - before the trail system fanned out into the countryside.

d. During operations in War Zone C the Regiment made extensive use of the automatic or electrical ambush. Inclosure 6 describes this device. Essentially it consists of claymores wired in series or parallel, with a trigger mechanism made of spring clip type clothes pins or plastic spoons. In one month over 100 enemy soldiers were killed in War Zone C in automatic ambushes. Cavalry troops set out ambushes across the trail network, then "ran traps" each day to reset or relocate ambushes, or police up enemy dead killed in negotiating the trails. This is an extremely effective technique. It does however require stringent controls. Inviolable were the rules that: (1) the man who set the ambush had to reset or disarm his own ambush lest someone unfamiliar with the setup accidentally be killed or injured; (2) the reset or disarm party approached the battery at a belly crawl and disconnected the battery in a heads-down prone position. As many as 65 automatic ambushes were in position and reset or moved daily. A suitable trigger should be manufactured in addition to the standard claymore "clacker". Camouflaged detonator cord is essential but was not available in the supply system. Skillfully employed, an imaginative ambush system is a potent offensive weapon, and is considered to be the key to successful border interdiction operations.

e. Conclusions.

(1) Offensive operations doctrine currently prescribed for armored cavalry is generally considered valid.

(2) Essential to successful offensive operations, especially in jungle and against an enemy who prefers to lie in wait are:

(a) Current proficiency in small unit battle drill.

(b) Integrated use of air cavalry with the attacking force.

(c) Coordinated, planned employment of TACAIR and artillery in support of the attacking force.

(3) Cavalry commanders must retain the flexibility and capability to command from the ground should the circumstances so dictate.

(4) Armored cavalry is ideally suited for offensive operations against enemy base areas and trail systems using attached engineer land clearing companies equipped with Rome Plows.

(5) The automatic ambush is an effective offensive device for coordinated employment against enemy trail networks and infiltration systems.

f. Recommendations.

(1) That additional training emphasis be placed by appropriate schools and training centers on the use of practical, simple, small unit battle drills and battle run type combat courses.

(2) That additional doctrinal and training emphasis be placed by appropriate agencies and schools on the integrated employment of air cavalry with attacking armor formations.

(3) That appropriate agencies insure that doctrine continues to emphasize the requirement for command from the ground, should the situation prohibit command from the air.

(4) That, at appropriate levels, additional planning consideration be given to the use of combined armored cavalry-land clearing operations to interdict enemy trail networks along border areas.

(5) That additional training emphasis be placed by appropriate schools and training centers on the extensive and coordinated employment of automatic ambushes as an offensive technique for use against enemy infiltration systems, especially for border interdiction operations.

22. Defense operations -- the Security and defense of cavalry laagers.

a. The Regiment did not conduct defense, delay, or retrograde operations during the period. The organic firepower and mobility of armored cavalry coupled to provide an overwhelming array of combat power which made offensive operations both possible and desirable in every instance. A cavalry troop well handled was generally capable of fighting anything the NVA could field, at least until additional cavalry and firepower could be mustered. As a consequence there was never a requirement to conduct any of the standard defensive operations visualized by current doctrine, even against NVA units.

b. The enemy preference for attacks by fire, stand off attacks and sapper raids made defense of cavalry laagers a critical consideration, and a matter requiring more emphasis than is generally given by current doctrine.

c. The normal scheme of operations in the Regiment was to operate the squadron command post, forward maintenance operations, howitzer battery, and tank company in a single laager. Troops, and occasionally tank companies, operated from separate, widely spaced troop/company laagers.

d. Security of troop level laagers was gained by moving frequently, and by insisting on individual personnel shelters, RPG screen (chain link fence) for key vehicles, defensive wire, and extensive trip flare and automatic ambush systems around the perimeter. The more frequently the troop moved the less critical became other defensive measures. The

longer a troop stayed in place the more important were digging in both vehicles and personnel, defensive wire systems, and flare and ambush systems on the perimeter. The enemy seldom attacked without preliminary reconnaissance. This seemed to take him several days. There was of course the constant threat of stray RPG teams, but an organized attack was always preceded by thorough reconnaissance. Consequently, part of every day had to be spent preparing or improving laager defense systems in all units.

e. Security of squadron CP laagers ('d' above) was more of a problem than was security of troop laagers. It was generally not advisable to move these laagers as frequently as troop laagers moved. Once the position had been occupied four or five days it had to be assumed that thorough reconnaisance had been performed and that an attack by fire or sapper raid was in the offing, contingent only on availability of resources and the decision to attack. Here again a part of every day had to be devoted to digging in, improving the position, and intensifying reconnaissance around the laager to detect signs of impending enemy attack. The attack on Fort Defiance described in Inclosure 3 is illustrative of this entire process. Defiance, in War Zone C, was a well dug in squadron headquarters laager. It had been on site about fourteen days at the time of the attack. The decision to stay in the same location was a calculated risk which was taken for a number of cogent reasons. Enemy reconnaissance and preparations for the attack were thorough and meticulous. Over one hundred rounds of indirect fire of caliber up to 120mm were delivered on the position. All evidence pointed to the presence of at least a battalion of NVA ready to follow up the attack by fire. This attack apparently aborted when the volume of defending fires became fully apparent. In addition there were no hits of significance on ammunition or vehicles to provide sufficient confusion in the position to create conditions favorable to a ground attack. The squadron suffered two men KIA and seven WIA in this attack. By contrast, in November 1969 in the same area, a squadron CP laager which was not dug in and well organized was attacked by an RPG team. One of the first of three or four RPG rounds fired during the attack hit a howitzer. The chain reaction of ammunition explosions in howitzers, M548 ammunition carriers, and other vehicles cost the squadron nineteen vehicles destroyed, eleven men KIA, and thirty men WIA.

f. Laager defense and security systems cannot be taken for granted. They require command attention, imagination, ingenuity, and aggresive pursuit of a total system which functions properly at the drop of the first round. As previously indicated, while the ancient shibboleth that cavalry does not dig in may be true, the cavalry commander who heeds this old saw in Vietnam is unnecessarily risking equipment and men's lives. There can be no excuse for this.

g. Conclusions. The criticality of laager defense systems to survival demanded more training and command emphasis than is normally given such matters in cavalry units. There was a generally inadequate level of training and background knowledge on the part of all hands in the

fundamentals of individual and vehicular fortifications, and of other devices and systems essential to the requirements of a successful laager defense system.

h. Recommendations. That action be taken by cognizant agencies to place increased emphasis in CONUS training centers and schools on field fortifications, shelters, and laager defense systems, particularly for Vietnam-bound armor replacements, both officer and enlisted.

23. Security operations - the security and escort of convoys and the security of land lines of communication.

a. Of security missions visualized for the armored cavalry regiment by current doctrine, the only ones performed by the Regiment during the period were escort and security of convoys and security of land LOCs. This was so because of the predominantly offensive nature of all Regimental operations already alluded to in 21 above.

b. In convoy security and escort operations, it was the practice to march a few tracked vehicles in the convoy to provide immediate reaction to attack and prompt communications in case of attack. Platoon or section size strong-points along the convoy route were reaction forces to pile on in response to an attack. Air cavalry was always used ahead and on the flanks of a convoy. Strong point forces positioned themselves after conducting a mine sweep of the convoy route. From December through the middle of March the Regiment frequently found itself sweeping and securing almost 100 kilometers of convoy route in and contiguous to Binh Long Province daily. Even when convoy escort was not required, it was frequently necessary to sweep and secure LOCs for civilian traffic and goods to flow to and from markets and population centers.

c. Convoy escort operations are extremely hard on tracked vehicles. Thus it was the practice to minimize the number of tracks actually marching in the convoy. The combination of speed, distance, dust, and heat created operating conditions in which only the M113A1 could survive. The M551 Sheridan is just not built for this type operation; overheating and engine/transmission failures rose exponentially after two or three days of convoy operations. The M48A3 could not operate at sustained speeds over the distances required, and was better employed in the strong-point role.

d. An armored car would have been far more utilitarian as a vehicle for convoy escort than any of the vehicles currently assigned to the Regiment. An armored car troop in the Regiment during this period could not only have provided an in-convoy weapon and communications capability equivalent to that of the M113A1, but could have conserved on tracked equipment mileage and maintenance. The FV100 armored car was employed by US Military Police units and RVNAF Provincial Reconnaissance forces for convoy escort. The vehicle is, however, under-gunned, and these units could not operate in Regimental communications nets, hence their value was limited.

e. Conclusions. There is a requirement for an armored car in the US combat vehicle family for use with armored cavalry in convoy escort and security, and in LOC security missions, especially in counterinsurgency operations.

f. Recommendations. That appropriate action be taken by cognizant agencies to establish a requirement for, and begin RDT&E on an armored car type vehicle for use in armored cavalry and other type units for convoy escort and convoy and LOC security missions, especially in counterinsurgency operations.

24. Air Cavalry operations

a. Forty-eight aircraft were assigned to the Regiment. Ten of these were UH-1H or OH-6A aircraft assigned to the Regimental Aviation Platoon and used for command control, liaison, courier, and aviation maintenance activities. Twelve aircraft were assigned to squadron aviation sections (two UH-1H and two OH-6A per squadron) for command control and liaison. The remaining twenty-six aircraft were assigned to the air cavalry troop:

TYPE CRAFT	ASSIGNED
AH-1G	9
OH-6A	9
UH-1H	6(Aero-Rifle Platoon)
UH-1H	2(C & C)

b. Employment of the air cavalry troop. The variety of missions assigned the air cavalry troop is indicative of its role in Regimental operations:

(1) The troop was frequently employed in a separate area of operations with a reconnaissance mission. Against NVA units this meant finding the enemy as a preliminary to moving ground cavalry troops into the contact area or to meet an enemy advance. Against local forces, and in Cambodia, after the main NVA forces had moved away to avoid the Regiment, this meant using the aero-rifle platoon and other elements of the troop to initiate contact, hold the enemy, and pile on with ground cavalry.

(2) The troop was used in reconnaissance operations in conjunction with ground troops to scout ahead, locate likely areas of enemy activity, identify sites occupied by enemy, and aid ground troops with navigation through the jungle.

(3) The troop was used to support offense operations as described in 21 above. The technique in this type of operation was to use gunship heavy teams of OH-6A and AH-1G aircraft so that gunships were immediately available as aerial rocket artillery once contact was made by the observation aircraft or by ground elements.

(4) Elements of the troop were used either alone, or in conjunction with ground forces for convoy and LOC security operations.

(5) The troop was used extensively for last light and first light visual reconnaissance of the border when the Regiment was operating in South Vietnam along the Cambodian border. Once in Cambodia it was the practice to conduct first and last light visual reconnaissance in a recon zone contiguous to the Regimental AO and at the limit of permissible entry of US forces into Cambodia.

(6) Observation helicopters and gunships were paired in recon operations in the familiar "pink team" - an OH6A and an AH-1G. Composition of these teams was varied by addition of more gunships or more observation aircraft depending on the situation.

c. With nine each AH-1Gs and OH-6As assigned, the gunship and observation helicopter capability of the Regiment is limited to about four to five aircraft of each type operationally ready daily. This number is considered insufficient for optimum support of the missions the Regiment was normally assigned.

(1) When operating against local forces, using the smallest units to build up in the "pile-on" technique, gunship, LOH, and aero-rifle assets all are insufficient to fully exploit the "pile-on" tactic.

(2) In operations against main NVA forces both observation and gunship cababilities, especially the latter, are insufficient to the needs of the mission.

d. The requirements for additional air cavalry and aerial rocket artillery can be met in two ways: either by assigning assets organic to the Regiment, or by providing assets on an area basis. Organic assets are more responsive; area support is probably more cost effective in terms of resources. Careful weighing of the advantages and disadvantages of each mode of support against roles and missions of armored cavalry must be the determining criteria on which to favor organic or area support. The armored cavalry regiment is normally employed in an independent role, on extended frontages or in extended areas. With the exception of DS automotive maintenance all other support from artillery to personnel management is now organic to the regiment or has been attached for operations in Vietnam, and operates as would organic support. The Regiment's overwhelming organic firepower gives it a predominantly offensive role, and makes of it the only ground combat force that can habitually close with and destroy the enemy. With just a little more organic air cavalry, and with the addition of organic aerial rocket artillery it is considered that the armored cavalry regiment could effectively operate an AO the size of those now assigned to entire divisions in operations in Vietnam. Thus the regiment becomes, in terms of personnel and equipment, a true economy of force type organization. Hence presence of organic air cavalry and ARA is considered to be the preferred

mode of operation.

e. Conclusions.

(1) Air cavalry was an essential asset in all missions the Regiment was assigned during the period, from pure offense to reconnaissance and security operations, against both main NVA and local VC forces.

(2) The Regiment would have been more effective against local forces, as well as against the NVA, had more air cavalry been available. One additional full troop or troop equivalent is considered a minimum requirement. A squadron of three troops or troop equivalents is judged to be optimum.

(3) In operations against NVA units there is a requirement for aerial rocket artillery in addition to the gunship support that can be generated by grouping air cavalry troop AH-1Gs. This is true even if additional troops or their equivalents are assigned to the Regiment.

f. Recommendations.

(1) That appropriate agencies review the requirements for air cavalry organic to the armored cavalry regiment with a view to assigning at least one additional troop or troop equivalent preferably two additional troops or troop equivalents to the Regiment, especially for counterinsurgency operations.

(2) That appropriate agencies establish a requirement for organic aerial rocket artillery for the armored cavalry regiment with a view to providing at least one battery, preferably two batteries in the organic air cavalry assets of the regiment.

25. Fire support operations.

a. Fire support provided the Regiment included squadron organic artillery batteries, general support artillery, aerial rocket artillery and tactical air. II FFORCEV Artillery provided general support artillery; the 1st ACD provided aerial rocket artillery, and 7th US Air Force provided tactical air support. There were several shortfalls in fire support capabilities in the Regiment. These fall into two general categories - deficiences in Squadron TOE and in Regimental TOE. Details of Squadron-level TOE shortcomings are set forth in 35 c and d below. This discussion will treat only Regimental level fire support problems.

b. The requirement for Regimental level tactical direction of artillery, fire planning and coordination, clearance of fires and posting of air warning data could not be met with resources provided by the current TOE. In late 1968 the Regiment initiated MTOE action for a 10 space addition to Regimental Headquarters to form a Regimental fire support element. Although MTO&E action has not yet been completed, the

Regimental FSE was established in March and operated quite satisfactorily under the terms of reference set forth in the Regimental Fire Support Coordination Regulation, attached as Inclosure 7.

c. Conclusions. It is considered that the requirement for a Regimental FSE is valid, and represents a minimum improvement necessary to make Regimental fire support operations function in a satisfactory manner.

d. Recommendations. That action be taken by appropriate agencies to review the adequacy of fire support management capabilities within the armored cavalry regiment with a view to revision of the Regimental TOE to provide an FSE for the Regiment.

26. Communications electronics operations.

a. The primary means of communcation within the Regiment was FM radio- the AN/VRC 12 and AN/PRC 25 series radios mounted primarily in tracked vehicles. The approximately 300 FM radios in the regiment operated in a total of 98 nets. Of the 98, 10 were sole user frequencies for command nets requiring limited interference. Common user frequencies were recurring monthly problems due to the number of allied users. Unit relocations and weather changes frequently aggravated problems with shared frequencies. The current FM family of radios is highly efficient. Performance continually exceeded planning capabilities especially when using towers or antenna masts to place antennas above double and triple canopy jungle. The use of secure voice FM equipment to troop level considerably improved communication security in the Regiment.

b. AM radio was available in the Regiment, but due to the reliability of and range capability of the FM equipment, AM was not used for operational nets within the Regiment. Admin/log nets at both Regiment and Squadron used AM voice to pass traffic to rear or support units using the AN/GRC 106 single side band radio. Aviation operations used an AN/GRC 106 for management of aircraft maintenance and repair of aircraft in the rear. Prior to December 1969 there were no AM voice nets operational. The Regiment operated radioteletype nets between Regimental headquarters forward and the Regimental Base Camp and a COMCENTER between Regiment and higher headquarters.

c. Switchboards, SB-86 at Regiment and SB-22 at Squadron, in forward support areas and in rear locations supplied landline communications, and were connected to the Corps Area Communication System for longhaul circuits to higher and adjacent headquarters in the theater. The Regiment does not have the sophisticated communications equipment, found for example in a separate brigade, to maintain communication between forward and rear units at several locations. A VHF system, AN/GRC 163, is authorized the Regiment but has not been issued. This system could provide limited landline capabilities with the Regiment.

d. Installation and use of secure voice FM equipment to troop/company

/battery level was accomplished to improve security on operational nets. RTT systems used in the Regiment and to higher headquarters are secure.

e. Conclusions.

(1) The increased capability and effectiveness of current FM radio equipment obviated the need for all but a few of the Regiment's authorized AM radio sets. For several weeks at one point, the Regiment operated on an extended frontage of over 100 kilometers with completely satisfactory FM communications.

(2) There was a requirement for some AM radio equipment to provide essential communications between Base Camp and Regimental forward, and for squadron and aviation maintenance, logistics and administrative traffic.

(3) Use of secure voice FM equipment was essential to a satisfactory level of communications security. There is a requirement for secure voice FM to troop level.

f. Recommendations.

(1) That appropriate agencies review communications requirements of the armored cavalry regiment to determine the optimal mix of FM-AM equipment and nets in view of the capabilities of the current family of FM radios.

(2) That appropriate action be taken by cognizant agencies to include secure voice FM radio capabilities to troop/company/battery level in the equipment of the armored cavalry regiment.

27. Intelligence operations.

a. Intelligence operations of the Regiment are considered in two parts: the S-2 operations section which received and disseminated information and intelligence, and operations of the 541st Military Intelligence Detachment, attached to the Regiment. The 541st Military Intelligence Detachment employed the Battlefield Intelligence Collection Center (BICC) concept, with personnel at Base Camp, Regimental forward, and at each squadron. The Squadron BICC consisting of one officer, two order of battle specialists, one prisoner of war interrogator, and one Vietnamese interpreter, provided the squadron commander with an immediate tactical intelligence capability and early information from other intelligence agencies. The remainder of the order of battle section, the IPW section, four counterintelligence personnel and two imagery interpretation personnel were the Military Intelligence contingent at Regimental forward. This element maintained necessary order of battle records to insure complete analysis of information from documents, prisoners of war, and ralliers. The remainder of the 541st, at the

Regimental Base Camp, maintained daily liaison with II FFORCEV Headquarters and MACV intelligence agencies.

b. The Regiment utilized all available intelligence sources to augment intelligence from documents and prisoners. Primary agencies employed were the 409th Radio Research Detachment, visual aerial reconnaissance, agent reports, aerial photography, side looking airborne radar, ground radar, red haze (infrared), sensors, and the airborne personnel detector (sniffer). Technical detection systems provide indications only; readings obtained from these devices were normally followed by visual aerial reconnaissance and/or comparison with collateral data before the information was considered "hard" intelligence. On many occasions, combat elements of the Regiment were directed to move to locations indicated by a single source and found no significant activity. One procedure used with some success was sniffer employment in areas of recent SLAR or RED HAZE readings. If the sniffer also detected activity, an aerial reconnaissance was employed, followed by commitment of the aero-rifle platoon or a cavalry troop with significant results on several occasions. Ground radar (AN/PPS 4, AN/PPS 5), sniffer, and visual aerial reconnaissance capabilities are organic to the Regiment; othe sources and devices were provided by, or requested through, the 1st Cav Div (AM).

28. Training operations.

a. Training of individual replacements assigned from CONUS was generally adequate. However, it was also considered essential that all newly assigned personnel, including company grade officers, needed a Vietnam and a unit orientation. In addition, training in certain basic skills was generally considered inadequate. Therefore it was necessary to establish and operate a replacement training school in the Regiment. The Cavalry Training School POI emphasized the most serious shortfalls in previous training of replacement personnel. Weaknesses were noted in the following areas:

(1) Demolitions, mines, and booby traps

(2) Weapons training

(3) Crew duties

(4) Maintenance

(5) Field fortifications and laager defense systems

(6) Battle drill/small unit combat courses

b. It was also considered necessary to set up a Regimental training program which emphasized continual practice of basic skills. The philosophy underlying this regulation was that the maintenance of a

minimum essential skill level in certain basic combat functions is mandatory and that even in combat unit, training programs are a necessity. The training regulation sought first to identify the essential skills, then to specify the frequency of repetition of these skills necessary to maintain an acceptable level of proficiency. Against these basic criteria, squadrons were required to develop training programs. High on the list of essential skills were crew duties, weapons training, vehicular maintenance, laager defense and battle or small unit combat drills.

c. Of especial concern was the generally high level of ignorance on the part of company grade officers in weapons training, vehicular maintenance, field fortifications, and laager defense systems, and small unit combat drill techniques. Most professed to having heard the subjects discussed; none had even a barely adequate hands-on operating knowledge of the subjects on arrival in the Regiment. (See Inclosure 8).

d. Conclusions.

(1) Despite the general adequacy of CONUS training, there was a requirement for additional training of newly assigned personnel through grade captain on arrival in Vietnam. A Regimental replacement school was considered necessary to satisfy this requirement.

(2) Skills in which newly assigned personnel demonstrated a less than acceptable level of proficiency were: demolitions, mines, and booby traps; weapons training; crew duties; vehicular maintenance; field fortifications and laager defense; small unit battle drills.

e. Recommendations.

(1) That appropriate action be taken by cognizant agencies to place additional emphasis in CONUS schools and training centers on the following skills especially for Vietnam bound trainees:

(a) Crew duties for armor crewman

(b) Vehicular maintenance for armored vehicles

(c) Weapons training

(d) Demolitions, mines, and booby traps

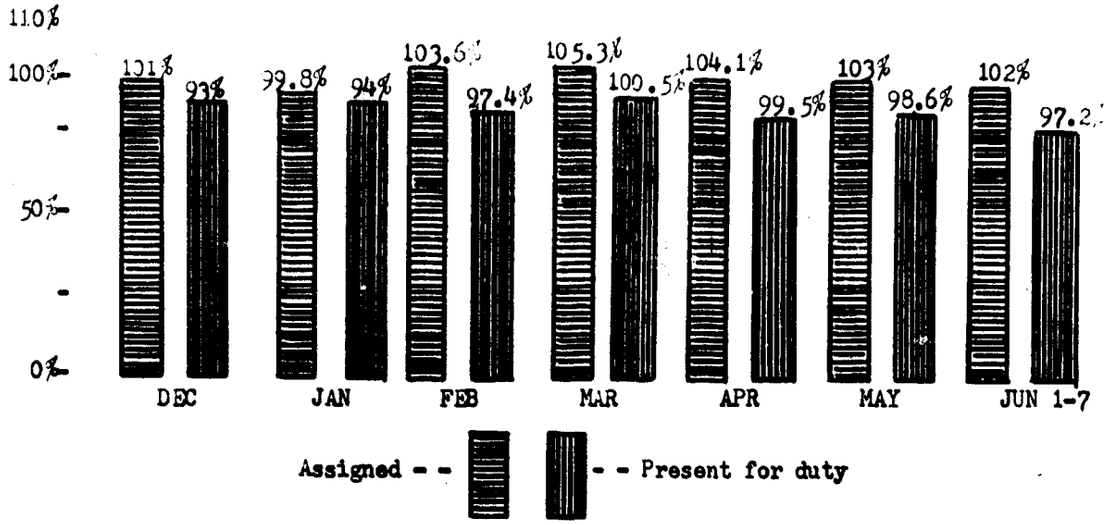
(e) Field fortifications and laager defense systems

(f) Small unit combat drills

(2) That action be taken by cognizant agencies to improve the general level of training provided company grade officers in CONUS schools in:

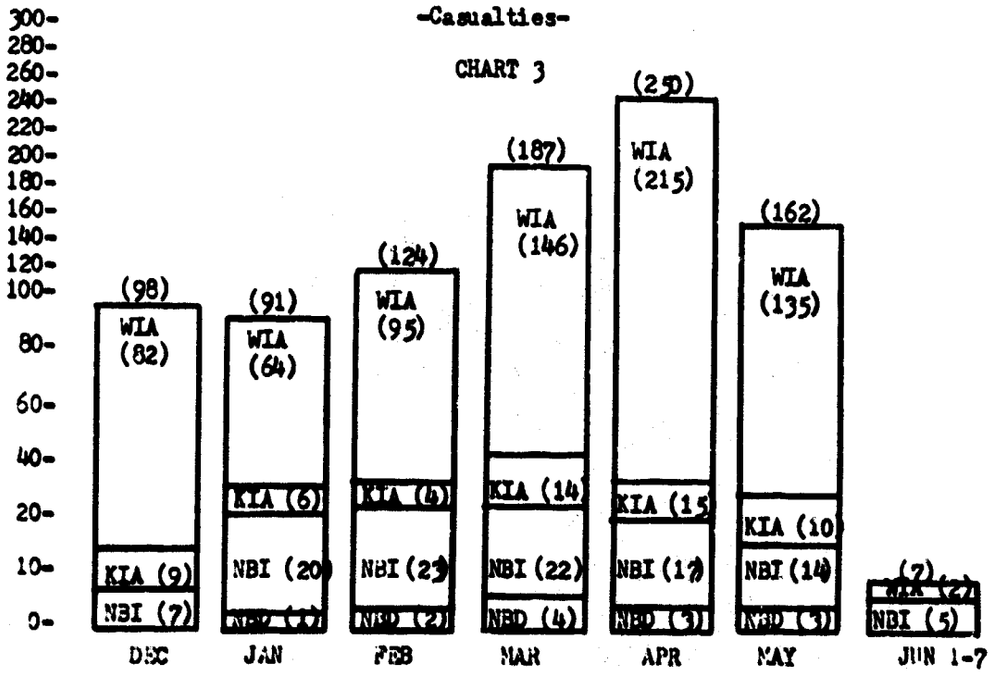
-Strengths-

CHART 2



-Casualties-

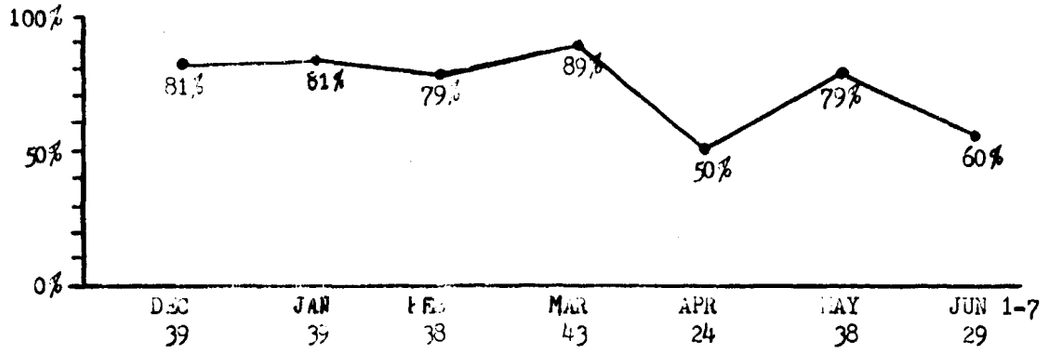
CHART 3



Critical MOS Charts

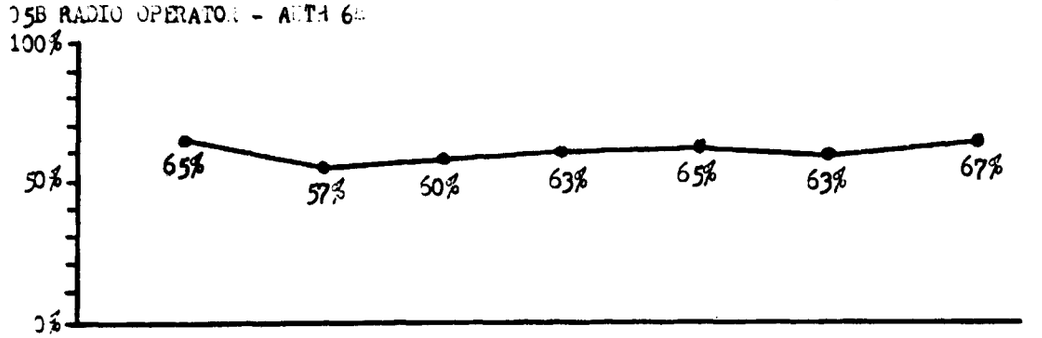
CHART 4

05C RTO - AUTH 48



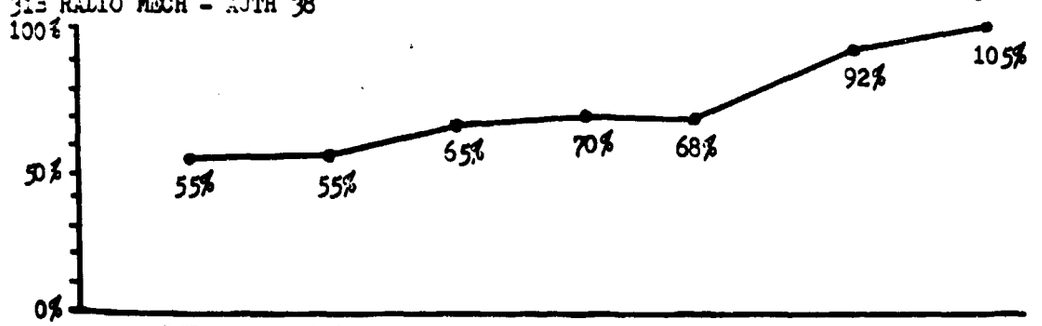
DEC	JAN	FEB	MAR	APR	MAY	JUN 1-7
39	39	38	43	24	38	29

05B RADIO OPERATOR - AUTH 64



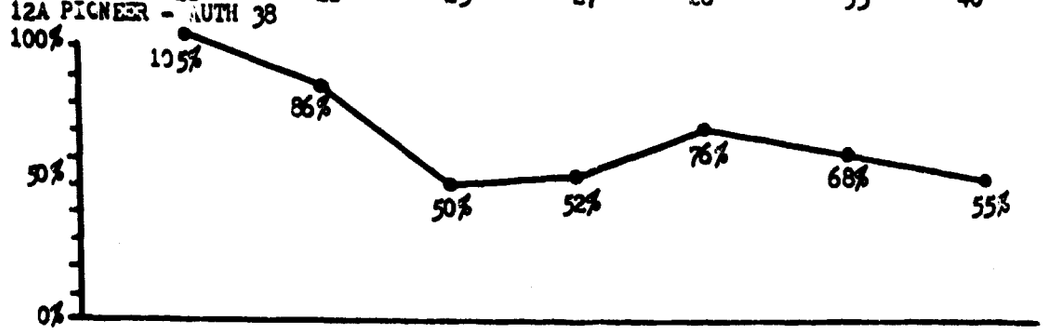
DEC	JAN	FEB	MAR	APR	MAY	JUN 1-7
42	36	40	41	42	41	43

31E RADIO MECH - AUTH 38



DEC	JAN	FEB	MAR	APR	MAY	JUN 1-7
21	21	25	27	26	35	40

12A PIONEER - AUTH 38



[illegible]	[illegible]	[illegible]	[illegible]	APR	MAY	JUN 1-7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26	[illegible]

(a) Hands-on knowledge of vehicular maintenance.

(b) Weapons training.

(c) Small unit battle drills.

(d) Field fortifications and laager defense systems.

Part VI - Administrative, Logistics, and Maintenance Operations

29. General. The stationing of the Regiment in three locations - Base Camp, forward, and field, resulted in time-space factors approximating those to be expected in a more conventional environment. Squadrons operated constantly in the field; Regimental forward was at Quan Loi; squadron combat trains were located variously at Quan Loi, Tay Ninh, and Lai Khe - generally 10-20 miles from squadron field locations; and field trains and the support base were clustered in the Long Binh-Bien Hoa-Di An complex, some 60 miles distant from Regimental forward at Quan Loi. Although separation created problems, it also provided a framwork within which to evaluate the effectiveness of current concepts of combat support.

30. Administrative operations.

a. Personnel turbulence due to normal rotation and medical evacuation was not a critical problem. As shown in Chart 2, assigned strength exceeded authorized levels - the result of a USARV program to maintain combat units at over 100% strength. Casualties were generally light during the period and during the Cambodian operation were less than those experienced the two preceding months. (See Chart 3). Replacement of casualties was not a problem. Critical MOS shortages in engineering and communications reflected USARV-wide shortages but were somewhat more critical to the Regiment due to the low density of those skills in the MOS structure. (See Chart 4).

b. In common with other units, the Regiment was short experienced junior NCOs, a problem generally solved through training on the job. There was however an increasing and unexpected problem with senior noncommissioned officers, E-7 and E-8, who used profile limitations, permanent or temporary, to try to avoid field duty upon assignment to the Regiment. Also, in two separate instances, upon assignment to squadrons after arrival from CONUS, lieutenants declared religious convictions which they alleged did not permit them to function as platoon leaders. The first, after additional reflection, psychiatric consultation, and legal counsel, concluded he would try. He was transferred out of the Regiment - there were sufficient grounds to create a lack of confidence in his ability and courage. The second officer was reassigned to the Regimental Base Camp to perform duties as custodian of the Open Mess System.

c. Chart 5 illustrates the distribution of personnel in the three Regimental locations - Base Camp or field trains, combat trains, and field. It does not however, reflect the number of individuals diverted into additional support positions, primarily in base camp and combat trains. Local regulations and practical necessity dictated a need for a legal section; officers were appointed as acting inspectors general, perimeter defense officer, civilian personnel officer, and custodian for the Central Post Fund and Open Mess System. Regimental staff sections were augmented with both officers and men required to perform additional functions not provided for by TO&E, MTO&E, and TDA staffing. The problem of being divided between a field, intermediate, and rear location affected each troop unit and staff section in the Regiment, creating unprogrammed requirements for additional housekeeping, guard, mess facilities and essential services.

d. A separate but related problem was created when the Regimental Base Camp moved from Bien Hoa to Di An, and the Regiment was tasked to assume installation coordinator responsibilities at Di An after the departure of the 1st Infantry Division. This responsibility required formation of a staff to manage the post. The Di An mission also changed the role of the 7th APU, Regimental Special Services section, and Central Post Fund, each of which had to take up an area support role, requiring an increase in strength. Initially personnel were assigned from normal Regimental overstrength, and by transferring short term and physical profile individuals from the 1st Infantry Division. A total of 13 officers and 102 enlisted men were required to run the Di An base. (See Chart 6). As a longer range solution, a proposed staffing level was submitted to HQ, USARV, in order to provide a recognized overstrength with a specific rank and MOS structure. This was approved by USARV, but at a manning level considerably less than that requested, requiring the Regiment to direct additional manpower to meet valid requirements.

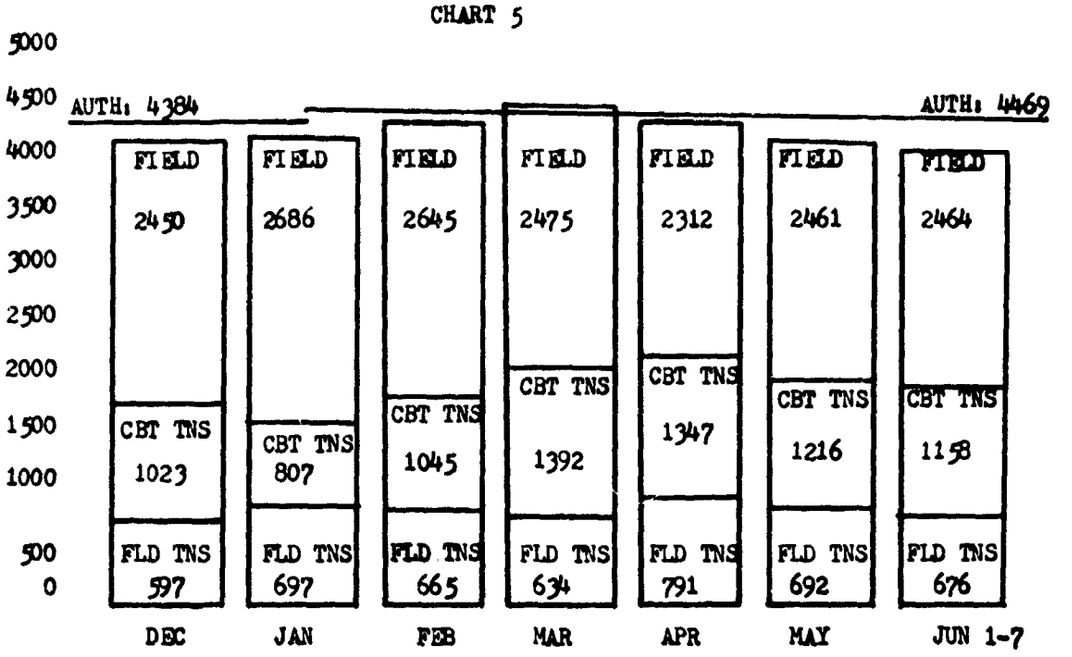
e. Conclusions.

(1) The Regiment had but a limited capability to absorb senior NCOs with profiles which limit their duty, and whose presence blocked assignment of qualified men. Reclassification of profile at Regimental level was not considered an effective solution. There was insufficient detailed, up-to-date information readily available concerning a man's knowledge, experience, ability, qualifications, and interests, There was no knowledge of the Army's overall needs in the entire MOS structure. Hence, by action at this level the senior NCO would all to often be shunted into a field for which he had no training and in which he could not find a position of authority. The Army has an obligation to its profile personnel to properly equip them to perform in an MOS in which they are capable physically. There is also a requirement to establish some stringent controls over assignment and review of physical profiles.

(2) The young officer who is a quasi-conscientious objector presents a different problem. If a lieutenant commissioned in a combat

-Distribution-

CHART 5



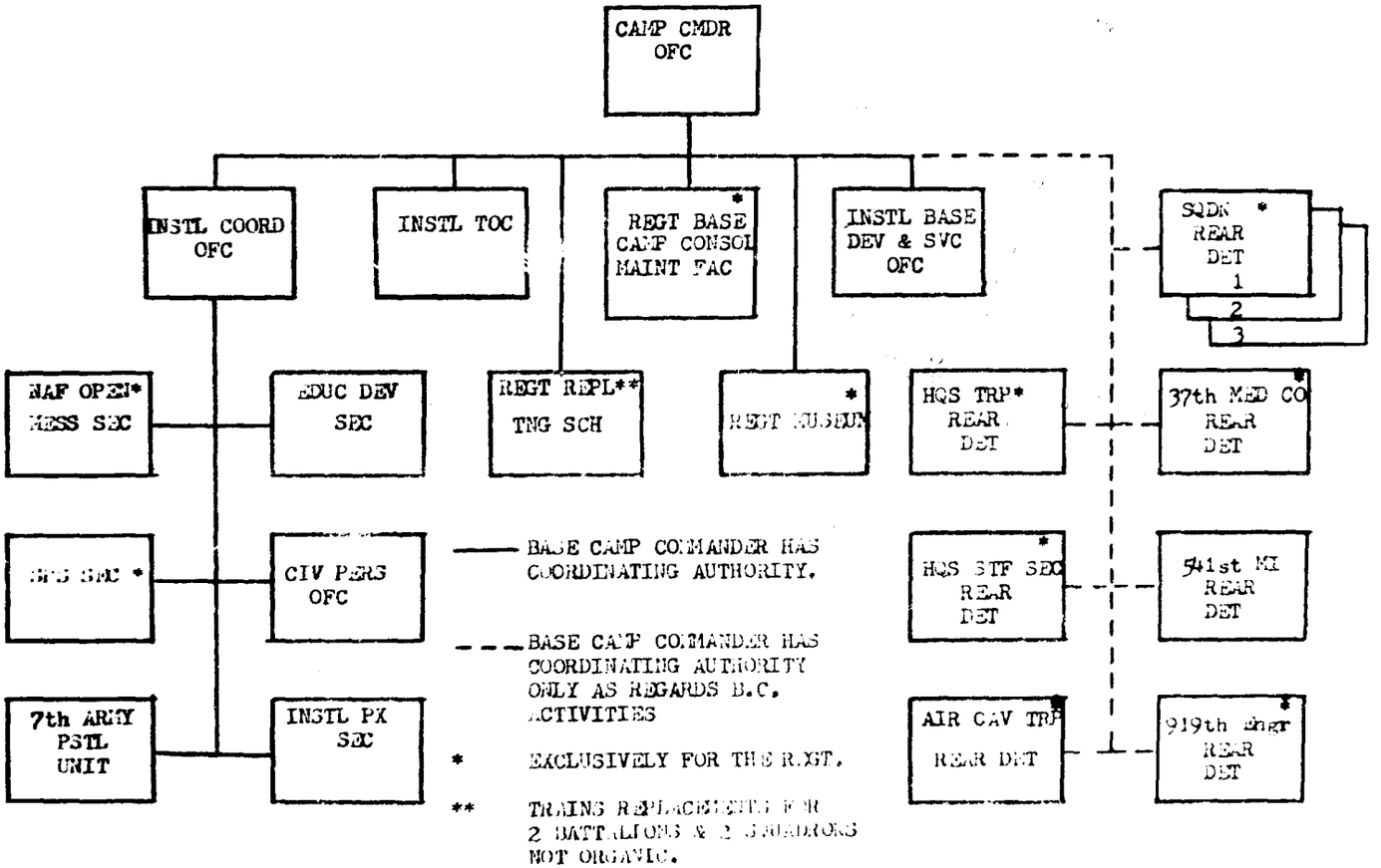
Note: The notations field trains and combat trains do not imply the exact same connotation as that which is doctrinely accepted. The following is an identification of type units in each catagory.

a. Field - All combat units

b. Combat trains - Regimental Headquarters forward, Air Cavalry Troop; HQ, 919th Engr Co. (ARMD), minus platoons attached to squadrons; HQ 37th Medical Co.; and each squadron's forward support elements.

c. Field trains - Rear detachment of each squadron and separate troop, company or detachment; Regiment HQ rear; Replacement Training School; 398th Transportation Det; 124th Maintenance Det, and installation staff sections.

CHART 6 REGIMENT (REAR) ORGANIZATIONAL CHART



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arm cannot perform duties as a platoon leader because of professed, but hitherto unrevealed, ethical reasons, it is difficult to understand why he should retain the pay, allowances, and privileges of an officer. He has accepted a responsibility he can not, or will not, fulfill. Yet there is no way to change his status, perhaps because this is an isolated and recent phenomenon. He has however taken the oath of an officer. It is difficult to understand how these young men reconcile their so called obligations as conscientious objectors with the more binding oath they have taken as officers. Cowardice, admitted or not, is considered their prime motivator. The ROTC and other officer procurement systems need to become more sensitive to this phenomenon in order to weed out men before they find themselves in a perplexing situation.

(3) Unprogrammed personnel requirements were generally, but imperfectly, met by sustaining units at overstrength as a matter of in-country policy. Installation coordinator could not be accomodated by the Regiment in this manner because resources were too limited to begin with. This problem is capable of being solved in the theater of operations, but could not be fully resolved in this instance due to USARV inability to provide the necessary assets.

f. Recommendations.

(1) That action be taken at an appropriate level to develop procedures to adequately retrain and reclassify senior enlisted men who have incurred a legitimate physical limitation which affects previous specialization. At the same time action should be taken to establish appropriate disciplines over the granting and retention of physical profiles.

(2) That the problem of the young officer with ethical limitations to his oath of office be studied at an appropriate level, and instructions passed to the field which clarify his status and position. As a preliminary, all agencies which administer training leading to a commission should be enjoined to sound out their candidates thoroughly, and early-on eliminate those who appear to have divided loyalties.

31. Logistics operations.

a. The Regiment was dependent on outside agencies for logistics support of all classes of supply. Classes I, III, and V generally were drawn at Quan Loi or Tay Ninh from supply points operated by DISCOM, 1st Cav Div (AM) or the 1st Logistical Command. Classes II, IV, VII, and IX were drawn from the Long Binh area, consigned to squadron forward support areas, and moved by the 48th Transportation Group, 1st Logistical Command. Due to enemy mining, the primitive road net in squadron areas of operation, and the often inaccessible location of troops, the forward movement of supplies to field locations was accomplished primarily by aerial resupply. Ch-47, Chinook, flying hours (blade time) were allocated daily by HQ, FFORCEV from its aviation companies. The

Regimental S-4 coordinated the system and established priorities; squadron S-4s were operators. Periodically, replacement and retrograde vehicles were moved in and out of squadron areas by overland routes. (See Chart 7).

b. A squadron operating in the field, experiencing light to moderate contact required an average of 60 tons of supplies per day: Class I-20 tons; Class III-14 tons; Class V-25 tons; Class IX-2 tons. A 1500 gallon water purification unit was normally attached to each squadron to decrease the daily Class I airlift requirements. During the Cambodian operation, the Regiment opened two supply points at forward air strips, stocking them primarily by Air Force fixed wing sorties. Supplies were lifted to field locations by CH-47 aircraft. As blade time became increasingly critical, a Land LOC was established between Quan Loi and squadron fire bases in Cambodia. Using trucks of the 48th Group, a daily round trip of 144 kilometers delivered an average of 30 tons per squadron per day.

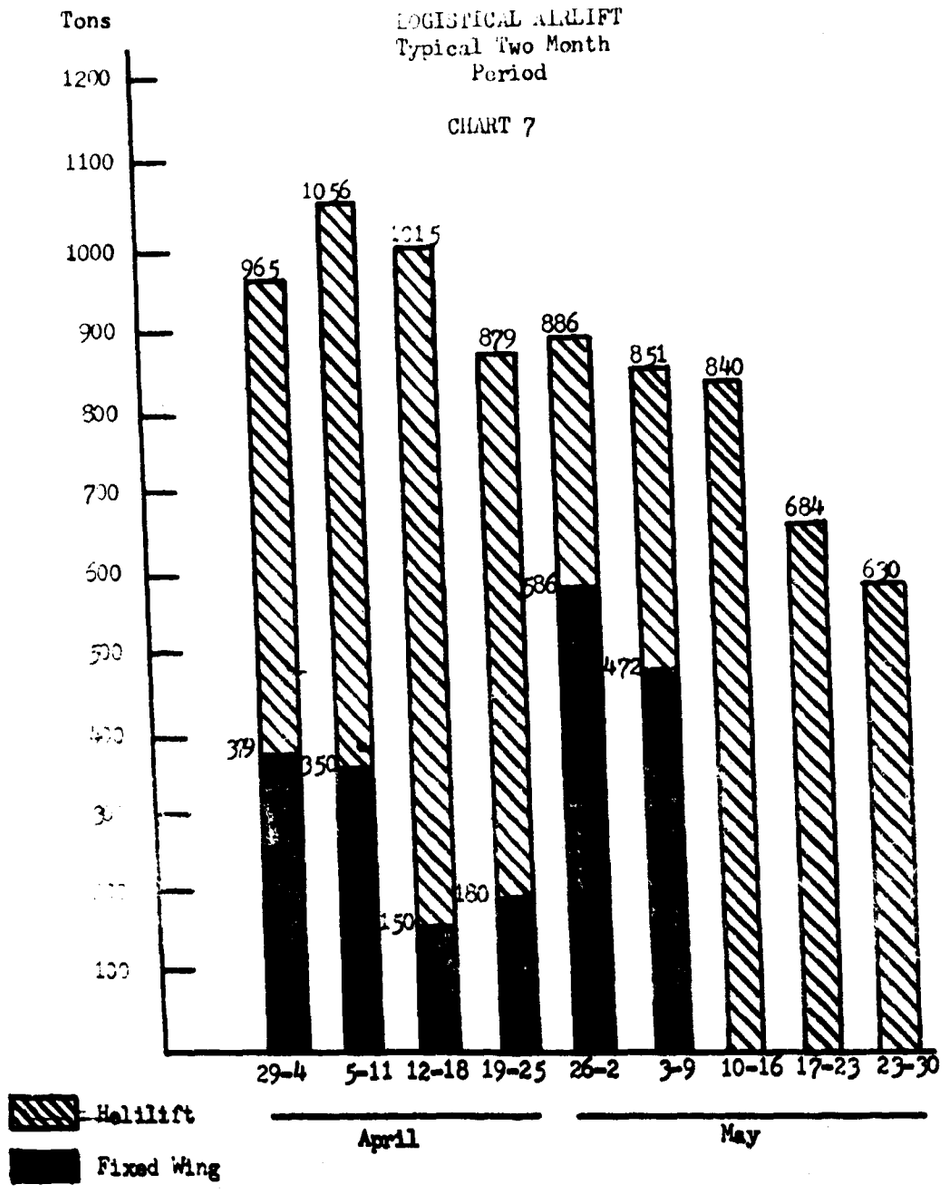
c. Conclusions. The area support concept for issue of supplies functioned adequately, since there were sufficient forward stockage points located at major fire bases in divisional areas of operation. Sufficient ground and air transportation was normally made available to satisfy the Regimental requirement for delivery to field locations.

32. Maintenance operations.

a. Maintenance within the Regiment was beset by the same ills experienced by Army units world wide. Despite the assumption on which the maintenance system is based, vehicles were not operated by skilled, trained personnel who inspected and automatically reported deficiencies. Young, inexperienced vehicle commanders, platoon leaders, and troop commanders were not solidly grounded or knowledgeable of their maintenance responsibilities. Trained PLL/TAERS clerks were not to be found. The combat environment, mode of Regimental operations, and separation between vehicle and organic maintenance elements, forced the Regiment to modify the TAERS system. Troop PLLs were consolidated at squadron level. With the exception of howitzer batteries, logbooks were removed from vehicles lest they become lost, destroyed, or illegible as a result of exposure to weather and battle. TAERS clerks and logbooks were consolidated under troop control in proximity to, and under the supervision of, squadron maintenance officers. On-site repair of vehicles was inhibited by continual maintenance problems with the M578 - the recovery vehicle assigned to reconnaissance troops. Stockage, inventory control, and flow of repair parts for low density items, new vehicles, and ENSURE equipment were not attuned to demand. The Regiment had neither an organic DS ordinance company for backup maintenance, nor a supporting unit assigned or attached. The absence of dedicated backup support and the shortcomings of the TAERS system were identified in the MACOV study in 1967, but had not been corrected three years later. At least 30% of all automotive spare parts were generated by controlled cannibalization of combat loss vehicles. This program

LOGISTICAL AIRLIFT
Typical Two Month
Period

CHART 7



1. Significant increase of fixed wing tonnage in early May is attributed to preparation of Forward Support Bases for Cambodian Operations.

2. Decrease of helilifted and elimination of fixed wing tonnage in mid-May is a result of the establishment of the land loc to all squadrons. Forward support bases were phased out at this time.

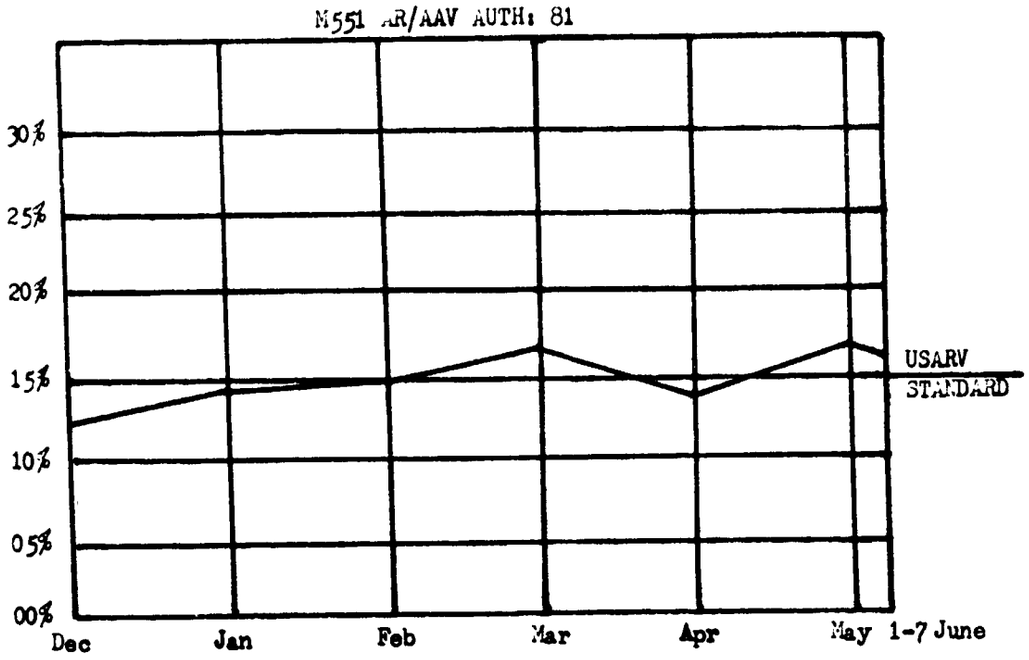


CHART 8

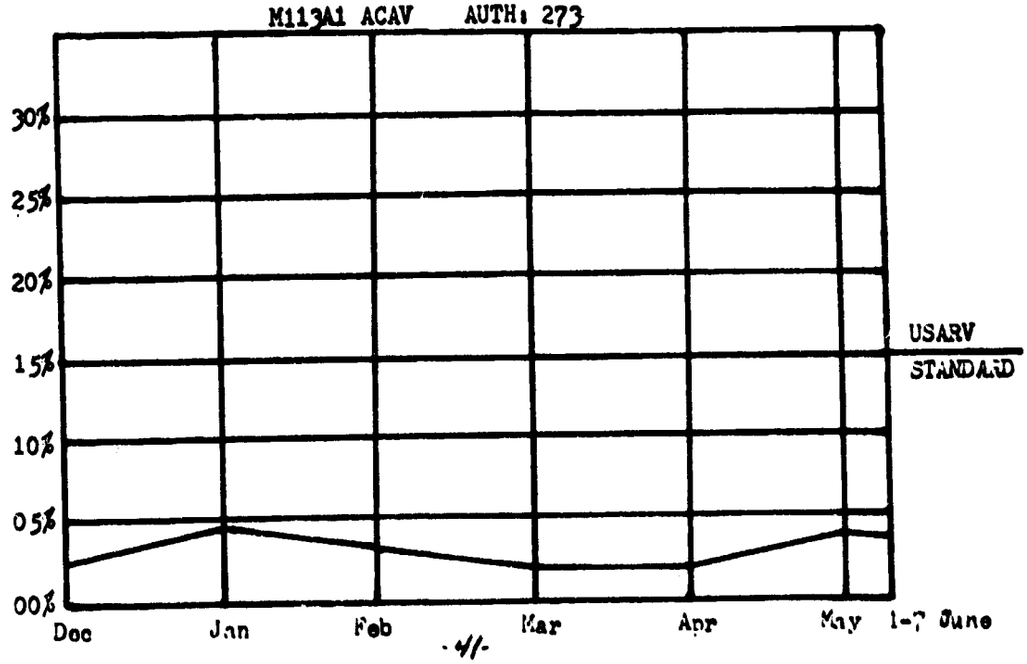


CHART 9

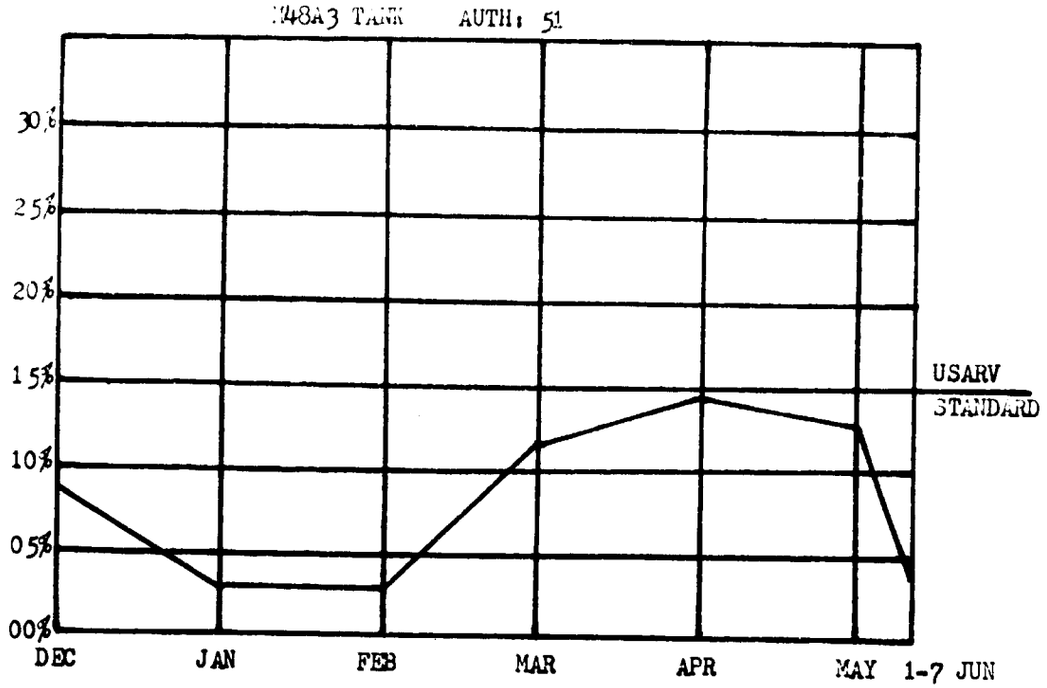


CHART 10

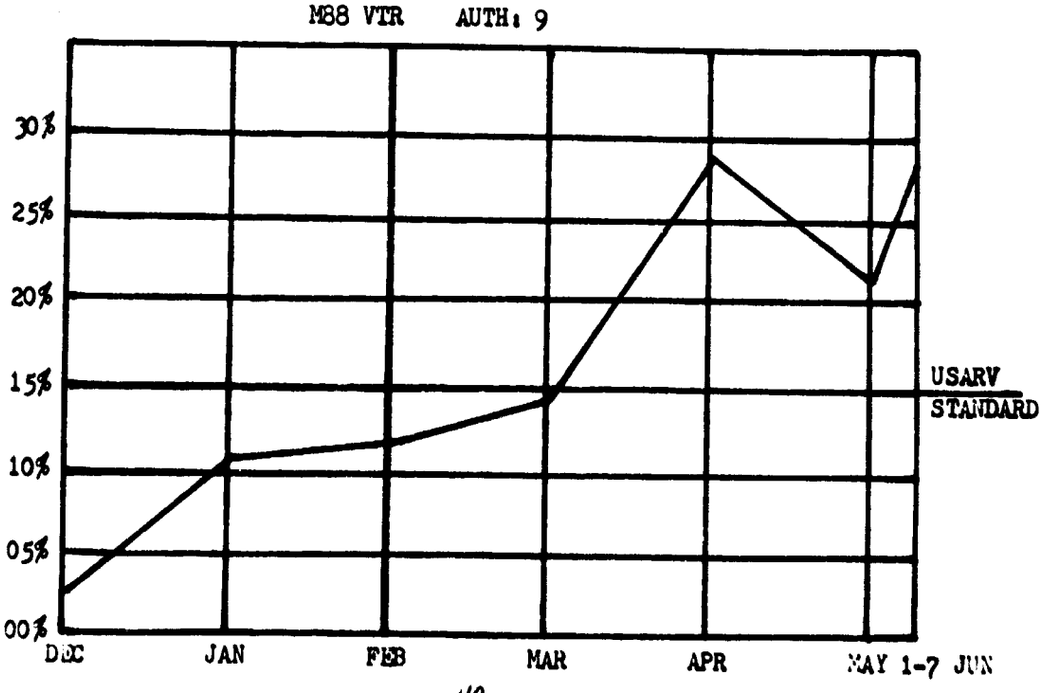


CHART 11

was carefully administered; and stringent controls were established, to include recording the exchange as a record of demand. The fact remains that the Regiment could not have operated at an acceptable rate of vehicle readiness had it not been for parts made available by combat losses.

b. This much being said, there is a positive side.

(1) For deadlined vehicles, a reasonably responsive system was developed to supply parts not on hand at squadron level. Parts requisitions and copies of the daily deadline report were flown to the 185th Maintenance Battalion, the backup DS unit at Long Binh. Copies of the report were distributed to HQ, II FFORCEV, and within the 1st Logistical Command. Staff officers and a Regimental parts expediter conducted vertical and lateral search; small parts were flown forward daily by Regimental courier (UH-1H); heavier parts followed overland. As a result of this intensive management, the average deadline for combat vehicles generally remained under the USARV average of 15% as illustrated by Charts 8 - 13. It should be noted, however, that this type of scrutiny and effort was effective because it went beyond the limits of the established system. However, as indicated in 'a' above, it provided only about two-thirds of the vehicular spare parts requirements of the Regiment.

(2) To augment the repair capability at unit level, the DS battalion supporting the Regiment provided contact teams of approximately 15 men to each squadron, to be co-located with squadron maintenance platoons and to perform on-site repair in the field. Because of the continuing high failure rate of the recoil seal in the Sheridan main gun and the excessive down time required to evacuate and repair the system at Long Binh, the entire recoil mechanism was exchanged at Quan Loi by contact teams, this repair not being feasible in a field location. Although this did not eliminate the basic problem, it reduced repair time from two weeks to a more acceptable level of 2-3 days.

(3) A series of improved maintenance management and control measures were instituted at Regimental level. A Regimental Maintenance Regulation was promulgated setting forth detailed instructions on PLL management, maintenance services, and unit responsibilities. A separate maintenance staff was created, headed by a Major, co-equal with the Regimental S-4. The section was tasked to handle maintenance reports, establish policy, resolve problems, inspect and police the organizational maintenance system within the Regiment.

(4) At squadron level three major programs were instituted. First, squadron PLLs were purified; the initial 1100 item "push package" of Sheridan parts was driven down to a manageable level of approximately 250 demand supported lines. Biweekly reports were established to monitor the number of total PLL lines, zero balance, demand accomodation, and demand satisfaction data. Squadron PLLs at the end of the period were at about half their original size as a result of this cleaning up

process. Secondly, modified quarterly inspection services were required monthly for combat vehicles in the field, stressing inspection, oil and filter changes, and running repairs. And finally, squadrons were required to conduct instructional, hands-on programs aimed at improving the maintenance knowledge and proficiency of junior leaders.

c. Entry into Cambodia on 1 May, and subsequent operations through June provided an excellent test of the capability to provide maintenance support for sustained operations over extended distances. By mid-May the Regiment was operating 40 Kilometers from Quan Loi, 100 Kilometers from Long Binh. At the beginning of the attack into Cambodia, contact teams were reinforced, the forward stock of major components at Quan Loi was increased, and maintenance float vehicles were readied for issue. Initially the pace and tempo of operations prevented repair of downed vehicles; they were evacuated forward along the axis of advance. As operations stabilized, the prestocked surge of parts decreased the deadline. Subsequently the deadline rate went up again as a result of several factors, including emphasis on operations over maintenance, inadequate organizational maintenance, and faulty replacement components. After the first two weeks in Cambodia, contacts were light, mining incidents dropped sharply and a secure land LOC was opened from Quan Loi into the forward areas for daily movement of repair parts, assemblies, and replacement vehicles. Nevertheless, evacuation and retrograde of vehicles was a constant problem, and the deadline rate remained at a high level. The Regiment could be controlled tactically from Quan Loi; it could be supported logistically from Quan Loi; but it could not be adequately maintained from Quan Loi and Long Binh, despite special preparations, extra effort, and an admirable attitude on the part of the DS unit.

d. By contrast, aviation maintenance procedures conformed more closely to established doctrine. The TAERS system worked and was not modified. The requirement for an organic DS unit was recognized by attachment of the 398th Transportation Detachment, stationed in the Long Binh complex. Some adjustments in the aviation maintenance system had been made and were continued. These were:

(1) Action had previously been taken to consolidate all aviation maintenance activities in the 398th Transportation Detachment, appropriately augmenting its strength. By MTO&E action, an ambulance platoon was deleted from the 37th Medical Company and 29 spaces transferred to the 398th for this purpose. Maintenance personnel from the Air Cavalry Troop and Regimental Aviation section were pooled in the 398th, as shown below.

Original strength, 398th Trans Det:	1	0	3	WO	97 EM
Air Cavalry Troop Maintenance:	1	0	2	WO	29 EM
Regimental Aviation Platoon Maintenance:			1	WO	17 EM
Revised strength, 398th Trans Det:	2	0	6	WO	143 EM

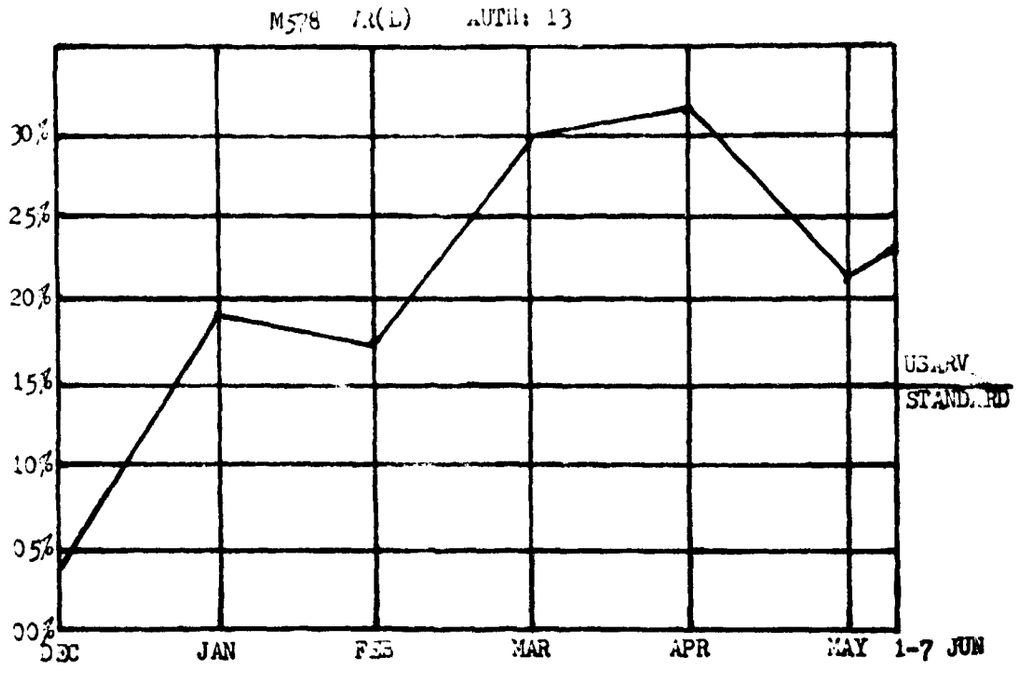


CHART 12

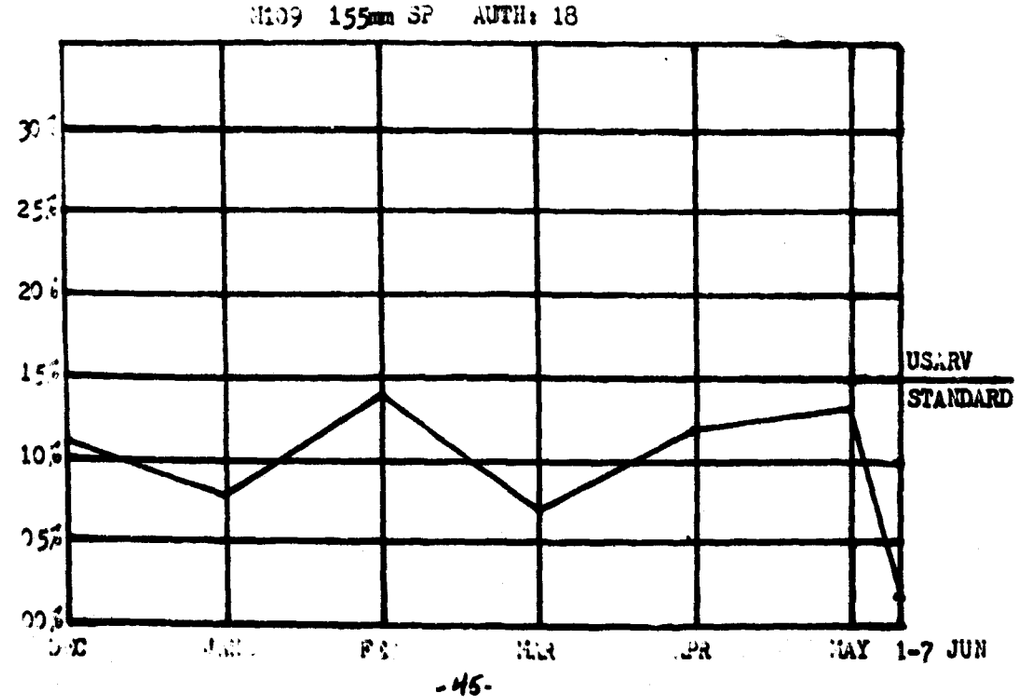
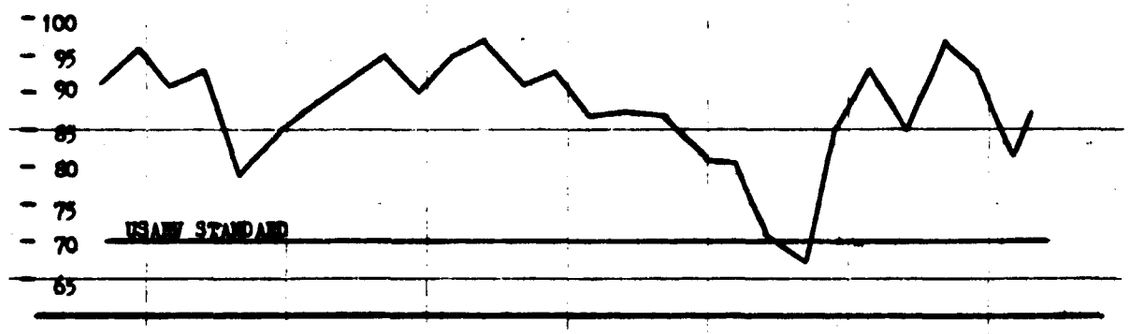


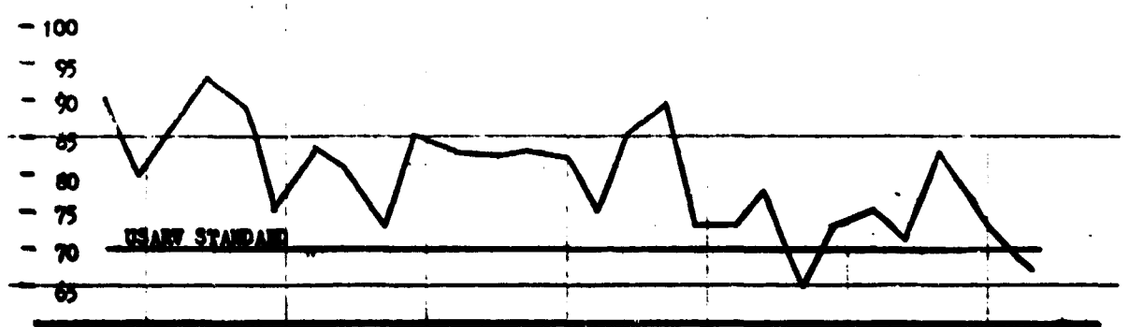
CHART 13

Aircraft OR Rate

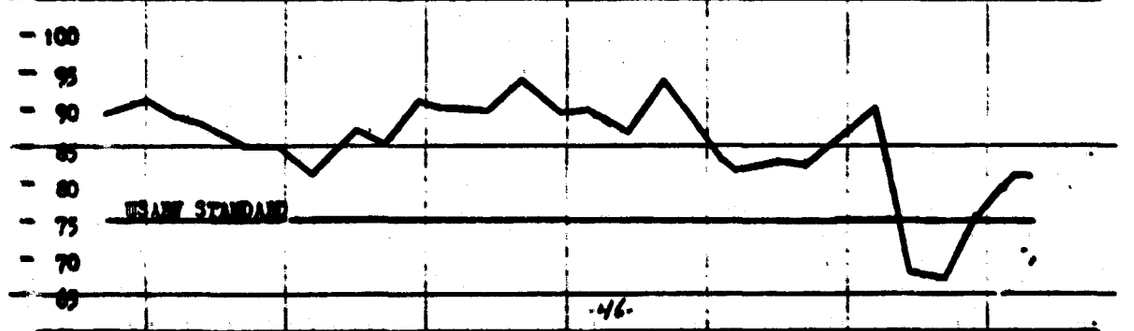
OH6A (Chart 14)



AH1G (Chart 15)



UH1H (Chart 16)



(2) The Air Cavalry Troop retained its armament maintenance personnel and non-aircraft maintenance personnel in the service platoon of the troop. Crew chiefs and line chiefs remained in their respective platoons. The Regimental Aviation Platoon retained crew chiefs and one supervisor. Squadron aviation sections were unchanged.

(3) The expanded transportation detachment provided all organizational aviation maintenance services as well as direct support aircraft maintenance. All PLL for aircraft were maintained by the 398th technical supply. A mobile contact team from the 398th was located at the forward operating base at Quan Loi and provided DS on-site. Forward stockage of PLL was accomplished.

(4) The modified system worked well and offset the problem of several smaller maintenance elements competing for scarce skills. Some delays in posting records were generated by separation of forward and rear areas, but posed no serious problem. Operationally ready (OR) rates for all aircraft generally were above the USARV standard as shown in Charts 14 to 16.

e. Conclusions

(1) The demand supported supply system for vehicular spare parts was generally inadequate to meet the needs of sustained combat. Especially was this true for new equipment, low density equipment, and ENSURE items. The Regiment met over 30% of its parts demands by controlled cannibalization of combat loss vehicles. Even though this data was carried across the cards and picked up as demand data, the supply situation never improved appreciably.

(2) The TAERS system was considered unworkable without extensive modification.

(3) The current Regimental TOE did not provide for effective vehicular maintenance management and control at Regimental level.

(4) Consolidated aviation maintenance in the Regiment and an organic DS aviation maintenance unit are absolutely necessary to effective aircraft maintenance for the Regiment.

(5) The area support concept prescribed by current doctrine was considered incapable of providing adequate DS automotive maintenance support for the Regiment. There was and is a requirement for an organic DS vehicular maintenance capability in the Regiment.

f. Recommendations.

(1) That appropriate agencies undertake an intensive review of the demand supported supply system for vehicular spare parts, with a view to developing an efficient system. Special attention should be given to

parts supply criteria for new equipment, low density items, and non-standard equipment items.

(2) That at an appropriate level a comprehensive review of the TAERS system be undertaken with a view to developing an equipment records system that can be managed under combat conditions.

(3) That cognizant agencies review the maintenance management capability of the armored cavalry regiment with a view to providing sufficient personnel and organizational structure within the regiment to conduct effective maintenance management and control.

(4) That cognizant agencies review the aviation maintenace capability of the armored cavalry regiment with a view to providing an organic DS maintenance and consolidated aviation maintenance in the regimental TO&E.

(5) That cognizant agencies undertake a comprehensive review of area maintenance support concepts as they relate to the armored cavalry regiment, with a view to providing an appropriately structured organic DS maintenance capability in the regimental TO&E.

Part VIII - Organization and Equipment of the 11th Armored Cavalry Regiment

33. The Regiment was basically organized under TOE 17-52G. Applicable MTOE, approved or pending, are listed at Inclosure 9.

34. The following units or detachments were attached to the Regiment:

a. 919th Engineer Company (Armored)

b. 37th Medical Company

c. 541st Military Intelligence Detachment

d. 33d Chemical Detachment

e. 17th Public Information Detachment

f. 28th Military History Detachment

g. 398th Transportation Detachment (Aviation Maintenance)

h. 124th Combat Support Detachment

i. 7th Army Postal Unit

35. Significant modifications to squadron TO&E include:

a. Armored Cavalry Troop.

(1) All M114 reconnaissance vehicles were replaced by the M113A1 in the ACAV configuration, since the M114 was considered unsuited for operations in Vietnam.

(2) All M113A1 were equipped with the standard 'A' Kit - forward firing .50 cal. with gun and cupola shield, two side firing M60 machine guns with gun shields. This modification gave the ACAV good, high volume automatic weapons firepower. The ACAV was used as a fighting vehicle - that is the crew fought mounted. The troop would have been more effective had there been at least a few long range, direct fire, ACAV-mounted weapons of caliber greater than .50.

(3) Rifle squads were deleted, substituting an M113A1 ACAV and crew. This left the Regiment with no infantry, and required the dismounting of ACAV crews when dismounted operations were required. This short-fall in organic infantry is discussed in 20 above.

(4) The 81mm mortar and carrier replaced the 4.2 inch mortar and carrier, although the conversion program was not complete throughout the Regiment. One squadron was fully 81mm equipped; one was fully 4.2 equipped; and the other had a mix of half of each type weapon. The conversion program was in progress based on availability of 81mm carriers. The minimum range limitation of the 4.2 inch mortar made the 81mm mortar a better weapon for employment in Vietnam. This was so because of the constant need for close-in defensive fires around cavalry laagers which could not be delivered from within the laager by the 4.2 inch weapon.

(5) The primitive road net combined with the mine threat to preclude the use of wheeled cargo and command vehicles in the field. Troop wheeled vehicles operated in squadron combat trains areas, and supported squadron Base Camp contingents.

b. Tank Company.

(1) Tank companies were provided M577 command post vehicles which were not included in the TO&E. Since tank companies were habitually used as fourth maneuver elements in squadrons, a CP vehicle was considered a necessity.

(2) As with cavalry troops, tank company wheeled vehicles did not operate in the field.

c. Howitzer Battery.

(1) The TO&E provided three FO sections. Since four maneuver elements (three cavalry troops and tank company) were normally employed, a fourth FC team was required. The battery survey officer was normally pressed into service for this duty.

(2) All FO sections and battery commanders were equipped with the M113A1, since it was not possible to operate wheeled vehicles in field locations.

(3) As before, battery wheeled vehicles were not operated in field locations.

(4) A recovery vehicle was not provided by TO&E and none was available. This placed an added burden on squadron maintenance recovery equipment.

d. Squadron Headquarters and Headquarters Troop.

(1) Air defense sections were deleted due to the absence of an active enemy air threat.

(2) A flame section of three M132 flame throwers and three XM45E1 tracked service units was added. The high failure rate of the service unit and the difficulty of procuring repair parts finally reduced this capability to the marginal effectiveness level.

(3) An artillery liaison officer was provided to assist the Squadron Commander in fire support coordination and planning.

(4) Staff manning levels were augmented to provide a 24 hour operating capability, and to handle functions such as civic action not provided by TO&E.

(5) Lift and tow capability in the squadron maintenance platoon was not adequate to the requirements of maintenance operations. Part of this reflected the mechanical unreliability of the M578, but there was little flexibility in lift and recovery equipment. At least four additional recovery vehicles are required (two M88s and two M578s).

(6) The welding capability of the squadron maintenance platoon was considered inadequate. In part this resulted from high deadline rates for welding equipment, which in turn reflected the low density of the item. An additional welder and an M548 carrier for each welding set is considered necessary.

(7) There was insufficient lift for the Squadron PLL and associated records. Expandable vans were procured but in insufficient quantities to completely satisfy the demand.

(8) The squadron medical platoons were equipped with one tracked ambulance per maneuver element - total four. The two tracked ambulances provided by TO&E were found to be inadequate, even with the preponderance of aerial medevac.

(9) Squadron AVLB sections were generally not adequate to operational demands. In part this was due to high vehicle deadline rates occasioned by low density of the item. Even more, however, it reflected the nature of the terrain and water courses, and the primitive or nonexistent road net in Vietnam. At least two additional AVLBs are required.

(10) Squadron support platoons were equipped with eight M548 tracked cargo carriers replacing eight 5 ton trucks in the platoons. Additional substitution of at least four M548s for an additional four 5-ton trucks is considered necessary for effective operations.

36. The Air Cavalry Troop.

a. The requirement for additional air cavalry troops or troop equivalents in the Regiment was set forth in 24 above.

b. The requirement for aerial rocket artillery as part of the air cavalry assets of the Regiment was set forth in 24 above.

37. Attached units.

a. Engineer. By MTO&E the 919th Engineer Company was augmented with a fourth engineer platoon. This permitted deployment of one platoon with each squadron, and left a reinforcing capability and a capacity for Regimental level engineer work with the company minus.

b. Medical. With extensive aerial medevac available, the 37th Medical Company was found capable of providing more support than was required. One clearing platoon was deleted by MTO&E and the spaces used to beef up aviation maintenance support as indicated in 32 above. So long as there is absence of enemy air or extensive anti-air capabilities which would limit aerial medevac, this is considered a valid deletion.

c. Aviation maintenance. Service platoon of the Air Cavalry Troop, and the 398th Transportation Detachment were combined to provide single manager control of all aviation maintenance in the Regiment.

38. Regimental Headquarters and Headquarters Troop.

a. The following changes have been accomplished by MTO&E action:

(1) Staff manning augmentations were authorized in order to permit a 24 hour operation. This included the organization of a civil affairs section (S-5) of two officers and two enlisted men.

(2) An awards and decorations section was organized to meet the demands of the volume of work required.

(3) A casualty reporting team was organized to cope with the demands of the casualty reporting system.

(4) The headquarters scout section was equipped with the M113A1 ACAVs instead of wheeled vehicles due to the primitive road net and the mine threat.

b. The Public Information Detachment operation under staff supervision of the S-1 and should be a TO&E authorization.

c. The Military History Detachment operated under staff supervision of the S-3 and should be a TO&E authorization.

d. The Military Intelligence Detachment operated under staff supervision of S-2 and should continue to be attached as dictated by the enemy situation.

39. Regimental Base Camp. The Regimental Base Camp was organized and staffed to meet the continued requirements of a Regimental Base Camp and an installation coordinator and staff for Di An, as indicated in 30 above. This is a requirement that can be met out of theater assets, as long as the requirement is honored by the theater Army headquarters.

40. Provisional Squadron.

a. Attached units, regardless of which agency had proponency, were loosely grouped into a Provisional Squadron, for administration of UCMJ and other matters. The Deputy Regimental Commander was designated Commander, Provisional Squadron. This arrangement relieved the Regimental Commander of many details of management of attached units, yet gave them a senior officer to oversee their activities and to whom they could turn for advice and counsel.

b. Considerable thought has been given to making of Provisional Squadron a support squadron similar to the support battalion, separate armored brigade, TO&E 29-75G. The following comments apply:

(1) The support squadron administration company would perform functions now accomplished by squadron administrative sections. Squadron personnel sections could be reduced in strength accordingly. However, experience indicates most administrative functions in question are more responsively and responsibly performed under squadron control.

(2) The support squadron supply and transportation company would function as squadron support platoons do now. This would mean squadron supply and transportation assets would be centralized in the support squadron. However, wide ranging operations over extended distances normal to armored cavalry militate against this kind of over-centralization of supply and transportation assets.

(3) The only functional element in the suggested support squadron not now present in the Regiment is the maintenance company. As set forth in 32 above, there is a requirement for a DS maintenance company organic to the Regiment. Maintenance is the only capability of the

support squadron that is not now present in the Regiment either organically or by attachment. Therefore there seems little to be gained by taking on an additional headquarters and staff to manage a support squadron, when all that is really needed is the organic DS maintenance capability.

41. Automotive Equipment.

(a) M13A1 ACAV 'A' kits and belly armor were standard modifications. Flotation kits while not used for flotation proved highly effective retardments to RPG penetration and were applied with belly armor. The requirement for a cavalry fighting vehicle is set forth in 35a above.

(b) M551 Sheridan.

(1) Modifications applied included:

(a) Side armor applique

(b) Relocation of commander's control handle

(c) Turret floor access plate

(d) Cast iron pulleys

(e) Closed breech scavenger systems and take off hoses

(f) Extended ammunition baggies

(g) Turret rear access door

(h) Improved bustle rack

(i) Road wheel grease fittings

(j) Caliber .50 deflection plates

(k) Breech modification for improved ammunition

(l) Improved M73 ammunition boxes

(m) Commander's rear ballistic shield

(n) Firing probe adaptor

(o) Searchlight guard

(2) All modifications were judged satisfactory except the bustle rack which is still too flimsy, and the searchlight guard which proved too bulky and cumbersome.

(3) Additional modifications required to make the vehicle suitable for combat include:

(a) An improved engine filter

(b) An improved engine with higher heat tolerance limits, more horsepower, and longer life. Average Sheridan engine life in the Regiment was less than 2000 miles, even with an intensive engine care and maintenance program. The Sheridan, like any combat vehicle, should be capable of towing another vehicle of its own type for some distance - the Sheridan is not now capable of doing this without severe danger of engine or transmission failure. Dust invariably adds about 40 degrees Fahrenheit to engine operating temperatures. With ambient temperatures of 100 degrees or better at midday, almost every day, engines were always operating well above normal heat levels. This reduced engine life and caused continual operational problems with vehicles inoperative due to overheating.

(c) Cased ammunition. Until the state of the art is advanced sufficiently to produce combustible ammunition with low fire and explosion hazard, cased ammunition will be required. Every Sheridan hit in or near the turret by an RPG during the period exploded and burned. Five crew members lost their lives as a result. Mine damage which vented the hull resulted in two exploded vehicles and one man killed.

(d) Hydraulically operated turret. Automotive electricity of any kind is difficult to trouble shoot, and few if any maintenance personnel are really proficient in the art. Twenty-five years of development resulted in a completely satisfactory turret hydraulic system for tanks. This knowledge should be used to put a hydraulic turret on the Sheridan.

(e) Responsive turret fire controls. The combination of gun ready light and turret traversing mechanism have resulted in a 30-30 second delay between target acquisition and the ability to move the turret to engage and fire a round. This resulted in the loss of five Sheridans during the period. Commanders saw the RPG team in each case, but could not bring the gun to bear in time to fire the first round. An acquisition to fire time greater than ten seconds is not acceptable.

(f) Main gun recoil mechanism improvement to eliminate leaking gunseals.

(g) An improved drive sprocket and hub carrier assembly to reduce sprocket bolt failure.

(h) Improved sprocket design to provide longer sprocket life.

(4) None of the stabilization equipment and missile firing gear

was required, and could, if practicable, be removed from vehicles designated for use in an emergency operation.

c. M48A3 battle tank. The Commander's cupola is unsatisfactory; caliber .50 machine guns were all mounted topside on a pedestal or tripod mount. Range finders were not used. Over 90% of all ammunition fired was cannister at a mean engagement range of 300 meters. There was chronic failure of the final drive assembly. The tank is a must in this environment, for its firepower, durability, and jungle busting capabilities.

d. M106A1/M125A1 Mortar carriers. The vehicles are quite satisfactory. The requirement for a mortar with the 81mm capability to fire close in laager defense fires, yet with the fragmentation effect and illumination capability of the 4.2 inch weapon is set forth in 35a(4) above.

e. M109 howitzer, 155mm SP. Recuperator assemblies had a high failure rate. The fiberglass fuel cells cracked frequently when firing maximum charge with fuel cells full. The vehicle was otherwise satisfactory.

f. Combat Engineer Vehicle (CEV).

(1) The 165mm gun should have an anti-personnel round. The demolition round of HEP is dangerous up to 450 meters to the rear of the point of burst due to bursting characteristics of the round. Normal engagement ranges were seldom greater than 300 meters.

(2) Although the vehicle enjoyed some utility as an additional lift and tow capability, its utility to the Engineer Company was limited. It could well be eliminated from the inventory in this environment.

g. M88 Tank Recovery Vehicle.

(1) The M88 should eventually be diesel powered to reduce the fire hazard and reduce mixed fuel requirements in the Regiment.

(2) The requirement for two additional M88s per squadron maintenance platoon is set forth in 35d(5) above.

h. M578 Recovery Vehicle.

(1) The vehicle needs a boom with a crowd capability. The present boom is only marginally adequate for maneuvering while lifting loads.

(2) Traversing magnetic clutch and housing failures were the cause of a 30% deadline rate for these vehicles during the period. The component needs design improvement.

(3) High failure rates were also experienced in suspension parts. Eventually the light recovery vehicle should have the same suspension system as at least one of the combat vehicle families it supports in order to facilitate spare parts resupply.

f. M34A2 Rotor Brake. Hydraulic system control valves and brakes, and bevel gear boxes have high failure rates and need design improvement.

42. Aircraft equipment.

a. AH-1G Cobra. The aircraft was proven highly satisfactory. The T-53-L-13 Engine supplies ample power and is highly reliable. Inadequate tail rotor pedal travel continued to be a problem. AH-1G weapon systems were a dependability problem and require some modification. Due to frequency of malfuction and long rearm times, XM18 minigun pods were replaced by XM158 and XM159 rocket pods. Also mounted was the XM28 turret incorporating one M134 minigun and one XM129 40mm launcher. Because of extensive jamming and failure of drive motors and shafts, reduced ammunition loads had to be carried to reduce stress on failure-prone parts.

b. OH-6A LOH. The aircraft was well suited for reconnaissance operations. Minor but persistent problems with fuel controls and leaking of tail rotor seals were experienced. The XM27 minigun proved accurate, dependable and psychologically effective. The greatest problem with the OH-6A was the avionics package. The FM and UHF radios were unsatisfactory. It was difficult to impossible to communicate from the OH-6a. The SLAE introduced on newer models of the OH-6A proved a great improvement, however new aircraft were in short supply and will be in even shorter supply with termination of the OH-6A buy.

c. UH-1H. Both lift and C&C aircraft proved satisfactory and were not modified.

d. The XM3 aircraft mounted, concealed personnel, sniffer device was used almost daily. The device was mounted in a UH-1H which flew at treetop altitude. The sniffer aircraft was accompanied by an AH-1G for protection and an OH-6A to check each in-flight reading. The system produced few kills but was considered a useful information gathering device.

e. Nighthawk. Although not particularly well suited for employment over dense jungle, the Nighthawk was frequently employed along highways and Rome Plow cuts. Extensive crew training was required to make best use of the system. Pre-clearance to fire at targets as they were discovered was essential. The light was found particularly dependable; there were however some malfunctions of the minigun. A flash hider for the minigun is a desirable modification.

43. Additional requirements. As set forth in 23 above, an armored car unit organic to the Regiment would have provided a more effective capability for convoy escort, and convoy and LOC security. An organic armored car troop (about 30 armored cars) at Regimental level could provide sufficient assets for these missions.

44. Conclusions. It is concluded that the requirements set forth in paragraphs 35 through 43 above are valid for armored cavalry units in counterinsurgency operations.

45. Recommendations.

a. That cognizant agencies review the organization of the armored cavalry regiment, with a view to revision of the regimental TO&E to provide:

(1) For armored cavalry troops, an armored cavalry fighting vehicle which would have the "going" and the maintainability of the M113A1, improved armament, lower silhouette, and properly designed crew fighting positions.

(2) Organic infantry either at troop or squadron level to meet the need for infantry in a variety of missions.

(3) At troop level, a self-propelled mortar that can fire close in laager defensive fires, but that has improved fragmentation and illumination capabilities.

(4) Full tracked vehicles for all equipment essential to troop operations in field locations.

(5) M577 CP vehicles for tank companies.

(6) A fourth FO team for howitzer batteries.

(7) A squadron flame section of three flame throwers and three tracked service units.

(8) A squadron artillery LNO section.

(9) Augmentation of squadron staff manning levels to permit 24 hour operation.

(10) Squadron maintenance sections with four additional recovery vehicles (two M578s and two M88s), an additional welder in an M548 carrier, and sufficient transportation of an appropriate design to make the squadron's PLL load fully mobile.

(11) Squadron medical platoons with an additional tracked ambulance, giving one ambulance per maneuver element.

(12) Squadron AVLB sections with two additional AVLBs.

(13) Squadron support platoons with a total of twelve M548 tracked cargo carriers replacing a like number of 5-ton trucks.

(14) Two additional air cavalry troops or troop equivalents for

the Regiment.

(15) An aerial rocket artillery capability of at least two batteries organic to the regiment.

(16) The armored engineer company with a fourth engineer platoon.

(17) Single manager control of all aviation maintenance in the regiment.

(18) Regimental Headquarters and Headquarters troop with:

(a) Augmented staff manning levels for 24 hour operation.

(b) A civic action-psyops section.

(c) An awards and decorations section.

(d) A casualty reporting section.

(e) A public information capability.

(f) A military history capability.

(g) A combat vehicle mounted headquarters scout section.

(h) Staff manning levels to provide a vehicular maintenance staff management capability.

(19) At Regimental level an organic DS vehicular maintenance capability of at least company size.

(20) An armored car troop organic to the regiment for convoy escort, convoy security, and LOC security missions.

b. That cognizant agencies undertake necessary action to produce modifications to or design improvement in major automotive equipment and aircraft/aircraft weapon systems as indicated below:

(1) <u>M551 Sheridan</u>.

(a) An improved engine with higher heat tolerance limits, greater horsepower, and longer engine life.

(b) Cased ammunition to replace the combustible cartridge.

(c) A hydraulic turret system to replace the electric turret system.

(d) Responsive turret operating and firing controls to provide an acquisition to fire capability no greater than ten seconds for the

first round.

(e) Improvement of the drive sprocket and hub carrier assembly to reduce sprocket bolt failure.

(f) Improvement of the main gun recoil system, to eliminate high failure rates due to breaking seals.

(g) Improved sprocket design to give longer sprocket life.

(h) Improvement of the bustle rack to make it sturdy enough for field use.

(i) Reduction in bulk and redesign of the searchlight guard to make it less cumbersome and bulky.

(2) M48A3 Main Battle Tank.

(a) An improved commander's cupola to permit cupola firing of the .50 cal. machine gun.

(b) Redesign of the final drive assembly to reduce high failure rates.

(3) M109 Howitzer.

(a) Improvement of the recuperator assembly to reduce high failure rates.

(b) Improved fuel cells to prevent cracking when the gun fires maximum charge with full fuel loads.

(4) M88 Tank Recovery Vehicle. Replacement of the gasoline engine with a diesel power plant.

(5) M578 Recovery Vehicle.

(a) A redesigned boom with a crowd capability for maneuvering while lifting loads.

(b) Redesign of the magnetic clutch and housing to reduce high failure rates.

(c) Redesign of the suspension system so that it is compatible with other vehicles in the Regiment, to facilitate parts resupply.

(6) M54A2 5-ton Wrecker. Improved hydraulic system control valves and hoses, and bevel gear boxes to reduce high failure rates.

(7) AH-1G Cobra.

(a) Improved tail rotor pedal travel.

(b) Improvement of the XM28 turret to eliminate excessive jamming and failure of drive motor and shafts.

(8) OH-6A Light Observation Helicopter.

(a) Improved fuel control to eliminate a high incidence of leakage.

(b) Improved tail rotor seals to reduce the high incidence of leakage.

(c) Retrofit of all OH-6A with the SLAE avionics package to provide adequate communications.

Part VIII - Recapitulation of Recommendations

46. The Environment. (Text paragraph 9). That appropriate headquarters and agencies take necessary action to:

a. Collect, collate, and republish for field use comprehensive "going" maps for armor in Vietnam at scales 1:50,000 and 1:100,000.

b. Reduce Vietnam "going" data for armor to appropriate scales for use by higher headquarters in force planning and unit deployment decisions.

c. Study the correlation between field "going" experiences and estimates of "going" based on Engineer terrain studies to develop correlation factors for application in areas where no field experience is available.

47. The Enemy. (Text paragraph 10). That increased planning and operational emphasis be placed at appropriate levels on conducting effective border interdiction operations to break up and choke off enemy infiltration of men and supplies as they enter South Vietnam, or as soon as possible thereafter.

48. Enemy Weapon Systems. (Text paragraph 11). That necessary action be taken by appropriate agencies to create requirements for and to develop a weapon system to be organic to US infantry units that will equal or better the RPG 7 weapon system capability now possessed by the NVA.

49. Enemy Land Mine Warfare. (Text paragraph 13).

a. That necessary action be taken by appropriate agencies immediately to start a full scale research and development program aimed at defeating the enemy land mine capability by providing the US Army with

a satisfactory high speed mine detector for use against both metallic and non-metallic mines.

b. That appropriate headquarters take necessary steps to study effective countermine measures in use by units in Vietnam, and to devise new operational methods to defeat the mine threat with or without the development of new equipment.

50. Pacification. (Text paragraph 14). That at an appropriate level of command a program be undertaken to gradually reduce the number of US agencies and activities involved in fostering or supporting GVN programs; at the same time the GVN should be encouraged to reduce proliferation of its effort in order to bring into being more centralized coordination and a clearer definition of responsibilities, especially at Province level.

51. Operations of the ARVN. (Text paragraph 15).

a. That action be taken by cognizant agencies to insure development of an ARVN logistics system capable of fully supporting ARVN, especially ARVN armor, in more mobile operations that will be required as the ARVN share of the war expands.

b. That ARVN requirements for mine detection equipment be included in developments recommended in 49 above.

52. Principles of Employment. (Text paragraph 19).

a. That action be taken by appropriate agencies to increase doctrinal emphasis on the role of armored cavalry as a combat maneuver force, especially in counterinsurgency operations.

b. That appropriate agencies create a requirement for research to determine optimal force employment for reconnaissance operations against an enemy who seeks to habitually elude contact. This research should not be confined to armored cavalry units alone but should include all ground combat battalion/squadron organizations.

53. Combined Arms - the Employment of Infantry and Armor. (Text paragraph 20).

a. That at the appropriate level action be taken to review the requirement for organic infantry in the armored cavalry regiment, especially for employment in counterinsurgency operations, with a view to providing sufficient infantry in adequate size units to cope with the infantry requirements of cavalry combat in this environment.

b. That additional training emphasis be given at appropriate schools for infantry on the capabilities and techniques of employment of armor units as units, and of armor with infantry.

54. Cavalry in the Offense. (Text paragraph 21).

a. That additional training emphasis be placed by appropriate schools and training centers on the use of practical, simple, small unit battle drills and battle-run type combat courses.

b. That additional doctrinal and training emphasis be placed by appropriate agencies and schools on the integrated employment of air cavalry with attacking armor formations.

c. That appropriate agencies insure that doctrine continue to emphasize the requirement for command from the ground, should the situation prohibit command from the air.

d. That, at appropriate levels, additional planning consideration be given to the use of combined armored cavalry-land clearing operations to interdict enemy trail networks along border areas.

e. That additional training emphasis be placed by appropriate schools and training centers on the extensive and coordinated employment of automatic ambushes as an offensive technique for use against enemy infiltration systems.

55. Defense Operations - Security and Defense of Cavalry Laagers. (Text paragraph 22). That action be taken by cognizant agencies to place increased emphasis in CONUS training centers and schools on field fortifications, shelters, and laager defense systems, particularly for Vietnam-bound armor replacements, both officer and enlisted.

56. Security Operations. (Text paragraph 23). That appropriate action be taken by cognizant agencies to establish a requirement for and begin RDT&E on an armored car type vehicle for use in armored cavalry and other type units for convoy escort, convoy, and LOC security missions, especially in counterinsurgency operations.

57. Air Cavalry Operations. (Text paragraph 24).

a. That appropriate agencies review the requirements for air cavalry organic to the armored cavalry regiment with a view to assigning at least one additional troop or troop equivalent, preferably two additional troops or troop equivalents to the regiment, especially for counterinsurgency operations.

b. That appropriate agencies establish a requirement for organic aerial rocket artillery for the armored cavalry regiment with a view to providing at least one battery, preferably two batteries in the organic air cavalry assets of the regiment.

58. Fire Support Operations. (Text paragraph 25). That action be taken

by appropriate agencies to review the adequacy of fire support management capabilities within the armored cavalry regiment with a view to revision of the Regimental TO&E to provide an FSE for the Regiment.

59. Communications Electronics Operations. (Text paragraph 26).

a. That appropriate agencies review communications requirements for the armored cavalry regiment to determine the optimal mix of FM-AM equipment and nets.

b. That appropriate actions be taken by cognizant agencies to include secure voice FM radio capabilities to troop/company/battery level in the armored cavalry regiment.

60. Training Operations. (Text paragraph 28).

a. That appropriate action be taken by cognizant agencies to place additional emphasis in CONUS schools and training centers on the following skills especially for Vietnam-bound trainees:

(1) Crew duties for armor crewmen.

(2) Vehicular maintenance for armored vehicles.

(3) Weapons training.

(4) Demolitions, mines, and booby traps.

(5) Field fortifications and laager defense systems.

(6) Small unit combat drills

b. That action be taken by cognizant agencies to improve the general level of training provided company grade officers in CONUS schools in:

(1) Hands-on knowledge of vehicular maintenance.

(2) Weapons training

(3) Small unit battle drills.

(4) Field fortifications and laager defense systems.

61. Administrative Operations. (Text paragraph 30).

a. That action be taken at an appropriate level to develop procedures to adequately retrain and reclassify senior enlisted men who have incurred a legitimate physical limitation which affects previous specialization.. At the same time action should be taken to establish appropriate discipline over the granting and retention of physical profiles.

b. That the problem of the officer with ethical limitations to his oath of office be studied at an appropriate level and instructions passed to the field which clarify his status and position. As a preliminary, all agencies which administer training leading to a commission should be enjoined to sound out their candidates thoroughly, and early on eliminate those who appear to have divided loyalties.

62. Maintenance Operations. (Text paragraph 32).

a. That appropriate agencies undertake an intensive review of the demand supported supply system for vehicular spare parts with a view to providing a more efficient system. Special attention should be given to parts supply criteria for new equipment, low density items, and non-standard equipment items.

b. That at an appropriate level a comprehensive review of the TAERS system be undertaken with a view to developing an equipment records system that will work under combat conditions.

c. That cognizant agencies review the maintnenance management capability of the armored cavalry regiment with a view to providing sufficient personnel and organizational structure within the regiment to conduct effective maintenance management control.

d. That cognizant agencies review the aviation maintenance capability of the armored cavalry regiment with a view to providing organic DS maintenance and consolidated aviation maintenance in the regimental TO&E.

e. That cognizant agencies undertake a comprehensive review of area maintenance support concepts for the armored cavalry regiment in sustained combat, with a view to providing an appropriately structured organic DS maintenance capability in the regimental TO&E.

63. Organization and Equipment of the 11th ACR. (Text paragraphs 33-44).

a. That cognizant agencies review the organization of the armored cavalry regiment, with a view to revision of the regimental TO&E to provide:

(1) For armored cavalry troops an armored cavalry fighting vehicle which would have the "going" and the maintainability of the M113A1, improved armament, lower silhouette, and properly designed crew fighting positions.

(2) Organic infantry either at troop or squadron level to meet the need for infantry in a variety of missions.

(3) At troop level, a self-propelled mortar that can fire close in laager defensive fires, but that has improved fragmentation and illumination capabilities.

(4) Full tracked vehicles for all equipment essential to troop operations in field locations.

(5) M577 CP vehicles for tank companies.

(6) A fourth FC team for howitzer batteries.

(7) A squadron flare section of three flame throwers and three tracked service units.

(8) A squadron artillery LNO section.

(9) Augmentation of squadron staff manning levels to permit 24 hour operation.

(10) Squadron maintenance sections with four additional recovery vehicles (two M578s and two M88s), and additional welder in an M548 carrier, and sufficient transportation of an a propriate design to make the sqadron's PLL load fully mobile.

(11) Squadron medical platoons with an additional tracked ambulance, giving one ambulance per maneuver element.

(12) Squadron AVLB sections with two additional AVLBs.

(13) Squadron support platoons with a total of twelve M548 tracked cargo carriers replacing a like number of 5-ton trucks.

(14) Two additional air cavalry troops or troop equivalents for the Regiment.

(15) An aerial rocket artillery capability of at least two batteries organic to the regiment.

(16) The armored engineer company with a fourth engineer platoon.

(17) Single manager control of all aviation maintenance in the regiment.

(18) Regimental Headquarters and Headquarters Troop with:

(a) Augmented staff manning levels for 24 hour operation.

(b) A civic action-psyops section.

(c) An awards and decorations section.

(d) A casualty reporting section.

(e) A public information capability.

(f) A military history capability.

(g) A combat vehicle mounted headquarters scout section.

(h) Staff manning levels to provide a vehicular maintenance staff management capability.

(19) At Regimental level an organic DS vehicular maintenance capability of at least company size.

(20) An armored car troop organic to the regiment for convoy escort, convoy security, and LOC security missions.

b. That cognizant agencies undertake necessary action to produce modifications to or design improvement in major automotive equipment and aircraft/aircraft weapons systems as indicated below:

(1) M551 Sheridan.

(a) An improved engine with higher heat tolerance limits, greater horsepower, and longer engine life.

(b) Cased ammunition to replace the combustible cartridge.

(c) A hydraulic turret system to replace the electric turret system.

(d) Responsive turret operating and firing controls to provide an acquisition to fire capability no greater than ten seconds for the first round.

(e) Improvement of the drive sprocket and hub carrier assembly to reduce sprocket belt failure.

(f) Improvement of the main gun recoil system, to eliminate high failure rates due to breaking seals.

(g) Improved sprocket design to give longer sprocket life.

(h) Improvement of the bustle rack to make it sturdy enough for field use.

(i) Reduction in bulk and redesign of the searchlight guard to make it less cumbersome and bulky.

(2) M48A3 Main Battle Tank.

(a) An improved commander's cupola to permit cupola firing of the .50 cal. machine gun.

(b) Redesign of the final drive assembly to reduce high failure rates.

(3) M109 Howitzer.

(a) Improvement of the recuperator assembly to reduce high failure rates.

(b) Improved fuel cells to prevent cracking when the gun fires maximum charge with full fuel loads.

(4) M88 Tank Recovery Vehicle. Replacement of the gasoline engine with a diesel power plant.

(5) M578 Redovery Vehicle.

(a) A redesigned boom with a crowd capability for maneuvering while lifting loads.

(b) Redesign of the magnetic clutch and housing to reduce high failure rates.

(c) Redesign of the suspension system so that it is compatible with other vehicles in the Regiment, to facilitate parts resupply.

(6) M54A2 5-ton Wrecker. Improved hydraulic system control valves and hoses, and bevel gear boxes to reduce high failure rates.

(7) AH-1G Cobra.

(a) Improved tail rotor pedal travel.

(b) Improvement of the XM28 turret to eliminate excessive jamming and failure of drive motor and shafts.

(8) OH-6A Light Observation Helicopter.

(a) Improved fuel control to eliminate a high incidence of leakage.

(b) Improved tail rotor seals to reduce the high incidence of leakage.

(c) Retrofit of all OH-6A with the SLAE avionics package to provide adequate communications.

AREA - LOCALE - TERRAIN

I. Binh Long Province (Map 1): Binh Long Province is one of South Vietnam's smaller provinces with an average north-south axis of 69 kilometers and an east-west axis of 34 kilometers, and covering a total area of 2520 square kilometers. This province is bordered on the west by Tay Ninh Province, on the south by Binh Duong Province, on the east by Phuoc Long Province, and on the north by Cambodia. An Loc (often called Hon Quan), the provincial capital is located 110 kilometers north of Saigon. Highway QL 13 is the primary line of communication running from the southern provincial boundary to Cambodia on the north. This highway is the life line of the province and is open for all weather travel from the southern boundary to the north central portion of Loc Ninh District. Other principle highways include route LTL 13 from Chon Thanh northeast to Phuoc Long Province, which is cut by a destroyed bridge on the Binh Long border, highway 246 from An Loc to War Zone C, highway 245 from An Loc southwest to the Minh Thanh Rubber Plantation, and highway QL 14A which runs northeast from Loc Ninh District to northern Phuoc Long Province. All of the highways, with the exception of highway LTL 13 are fully trafficable during the dry season, but are subject to enemy interdiction with mines and ambushes. The French built an extensive laterite road system in the rubber plantations; however, many of these roads have deteriorated due to the effects of weather and track vehicle movement.

The northern two thirds of the province is characterized by gently rolling hills, while the southern third is flatland (Map 2). The principle rivers in the province include the Saigon River on the western boundary and the Song Be River on the eastern boundary. All small streams flow southeast to the Song Be River or to the southwest to the Saigon River. Both of these rivers are approximately 50 meters wide and from one to five meters deep. Both rivers are fordable by foot in the dry season in several places; however, during the rainy season they become extremely flooded and must be bridged. Both rivers are obstacles to armor movement because of high, steep banks.

Non-cultivated vegetation consists of grasses, tropical ferns, high elephant grass, shrubs, bamboo, and trees. Dense tropical rain forest or heavy bamboo growth cover most of the uncultivated areas in the province. Cultivated vegetation consists of rubber, cocoa, coffee, sugar cane, pepper, and rice. There is also planting of jackfruit, bananas, mangoes, custard apples, tamarinds, sweet potatoes, manioc, corn, green beans, lettuce, squash, cucumbers, tomatoes, and red peppers.

There is virtually no key terrain in the province in terms of the normally accepted meaning of tactically important land masses. The key terrain is that terrain which includes the population centers and the area surrounding them. Other key terrain is that terrain which encompasses the rubber plantations due to their economic influence on the local populace.

Observation for the long range use of indirect fire weapons is non existent due to the dense vegetation and lack of high terrain features. Visual reconnaissance is also rendered difficult due to the dense jungle in most portions of the province.

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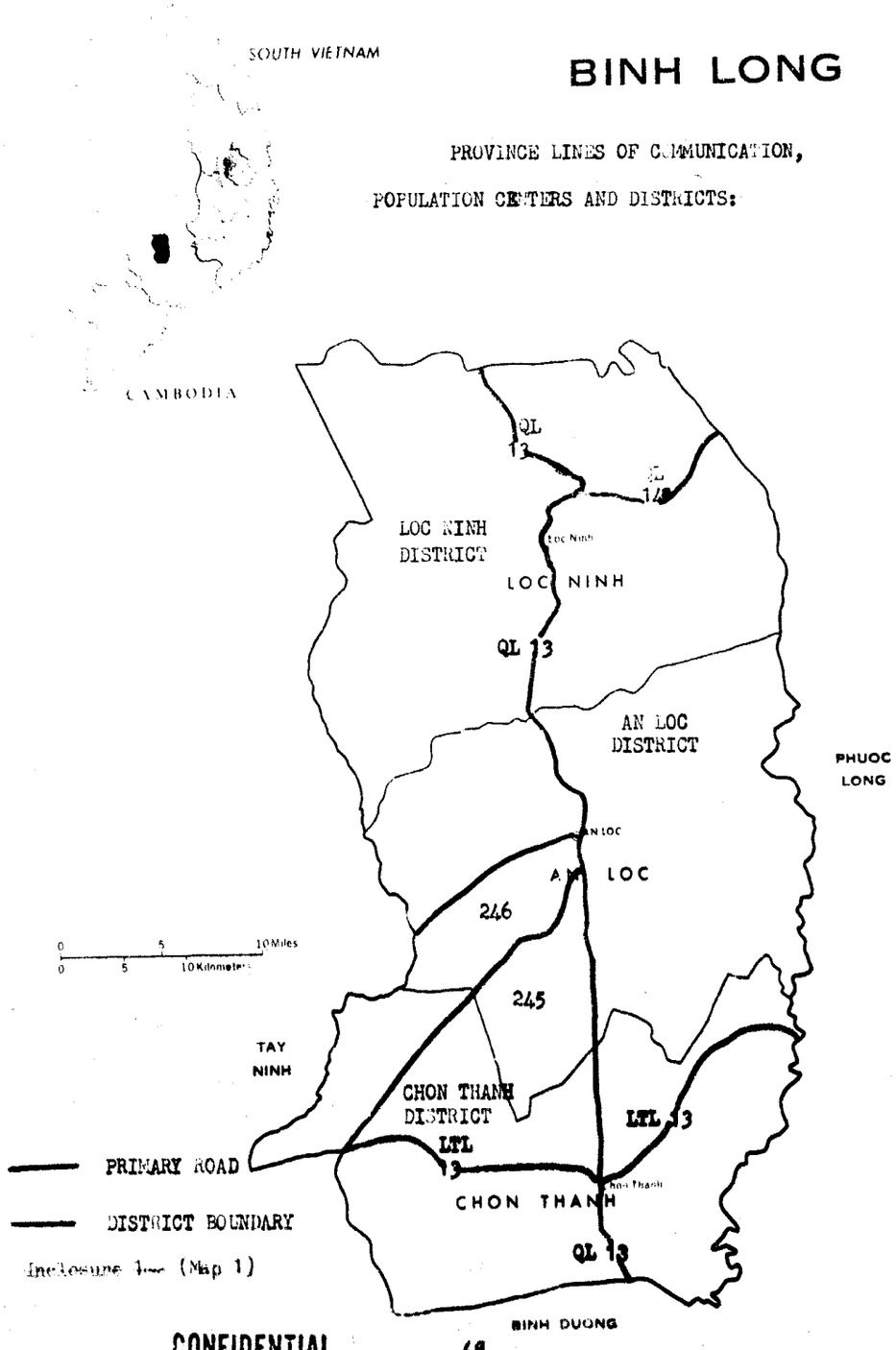
PROVINCE LINES OF COMMUNICATION,

POPULATION CENTERS AND DISTRICTS:



Inclosure 1 (Map 1)

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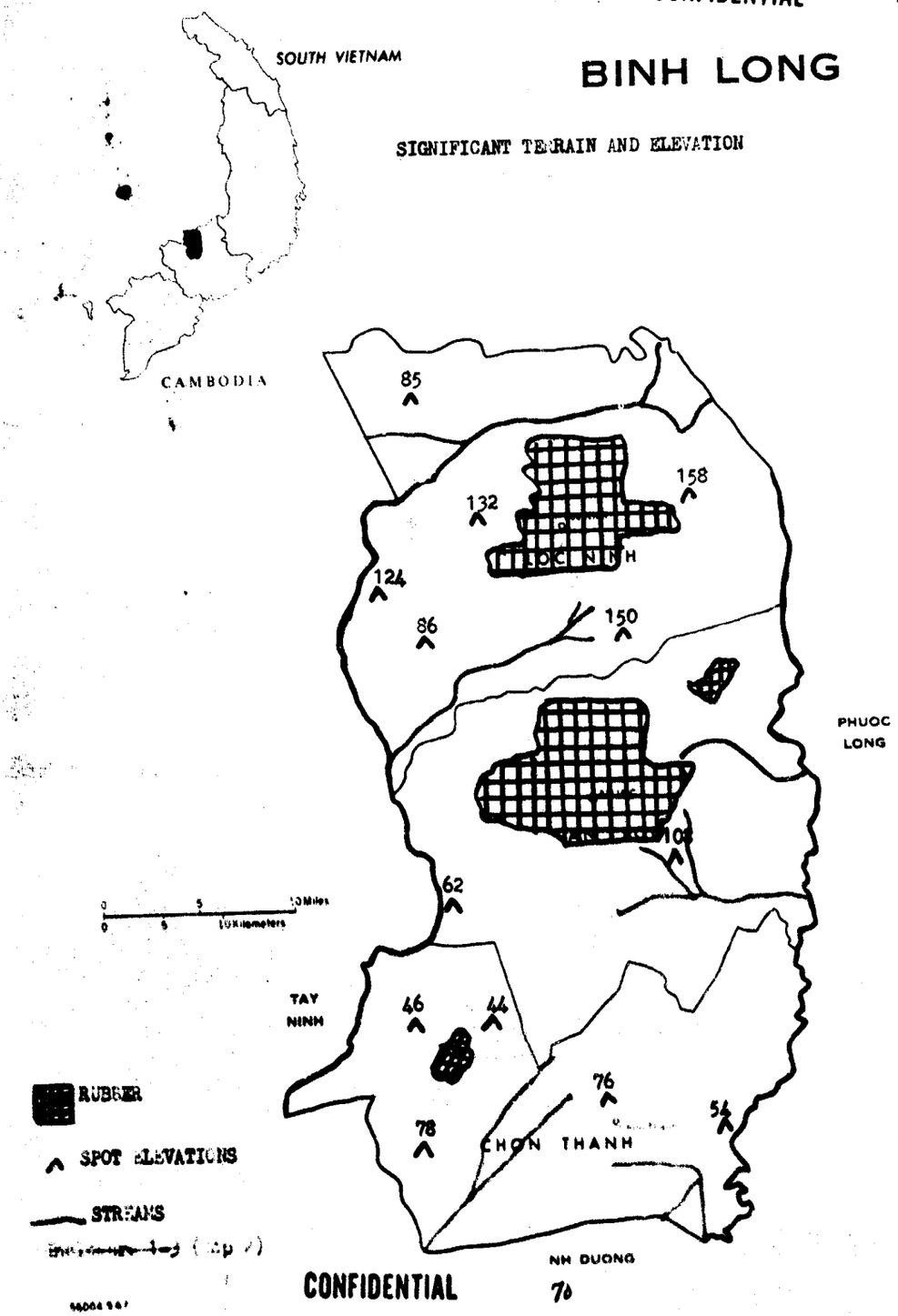
BINH LONG

SIGNIFICANT TERRAIN AND ELEVATION



Most of the province provides excellent cover and concealment from air for the movement of large bodies of troops. The exceptions are the very few rice paddies, open fields, and rubber plantations where due to the uniformity of the trees, movement can be detected from the air. Likely enemy avenues of approach are from the west or southeast, moving between the rubber plantations to maximize concealment advantages. The best avenues of approach to Loc Ninh are from the west and north. All approaches to Chon Thanh are concealed. Minh Thanh is approachable from all sides except the southwest, where there is a rubber plantation.

The terrain and vegetation favors enemy movement throughout the province. The enemy can move, making maximum use of concealment, to attack in multi-regimental force anywhere in Binh Long Province. Their only limitations to movement are the populated areas, concentrated along highway QL 13, and the large rubber plantations. Ground movement by friendly forces is best accomplished by foot in most areas. Armor movement is somewhat limited in the province by the drainage systems and the resulting steep sided draws (Map 3). Armor forces can move rapidly through the rubber plantations and bamboo areas, but become somewhat restricted in the dense jungle areas, especially during the wet season. The large number of suitable landing zones allow effective heliborne operations. During the dry season, areas shown as non-trafficable can be crossed, but with some difficulty experienced in the vicinity of streams.

Binh Long Province has approximately 67,000 people. National police census figures list 3,800 citizens of Cambodian descent and 3,300 citizens of Chinese descent. The largest non-ethnic majority in Binh Long Province are the Stieng, one of the most primitive of the mountain people in Vietnam. The Stieng are non-Khmer speaking people and are part of a large group of tribes that inhabit the mountains and foothills of Vietnam. The average wage in Binh Long is high in comparison to the national average. This is due to the rubber plantations where the workers are not only paid good wages, generally better than two thousand piasters, but also receive good housing, a bi-weekly rice supply, and hospital benefits.

II. War Zone C: War Zone C (Map 4) is centered 90 kilometers northwest of Saigon and comprises 2,916 square kilometers of northern Tay Ninh Province. This area is bordered on the north and west by Cambodia, Binh Long Province on the east, and central Tay Ninh on the south. North-south lines of communication from Cambodia to the Tay Ninh City area consist of highway TL 13 and LTL 20 in the Dog's Head area, QL 22 in the area east of the Dog's Head, TL 4 from Katum to Tay Ninh, the Mustang Trail east of TL 4 and highway 244 in the eastern portion of the province. Major east-west highways include highways 246 from the Saigon River to Katum and 247 from TL 4 to QL 22 (Map 4). All highways, to include the Mustang Trail, are limited fair weather roads interdicted by bomb craters and destroyed bridges. In February and March many of the bridges were replaced which made the roads trafficable to all vehicles. During the wet season all roads are impassable due to the high water table in the area.

The area is a low undulating plain with a few isolated hills covered by a single canopy, light undergrowth forest with no geographical key terrain (Map 5). Interspersed throughout the zone are cleared areas subject to inundation. Enemy avenues of approach are a complex of high speed

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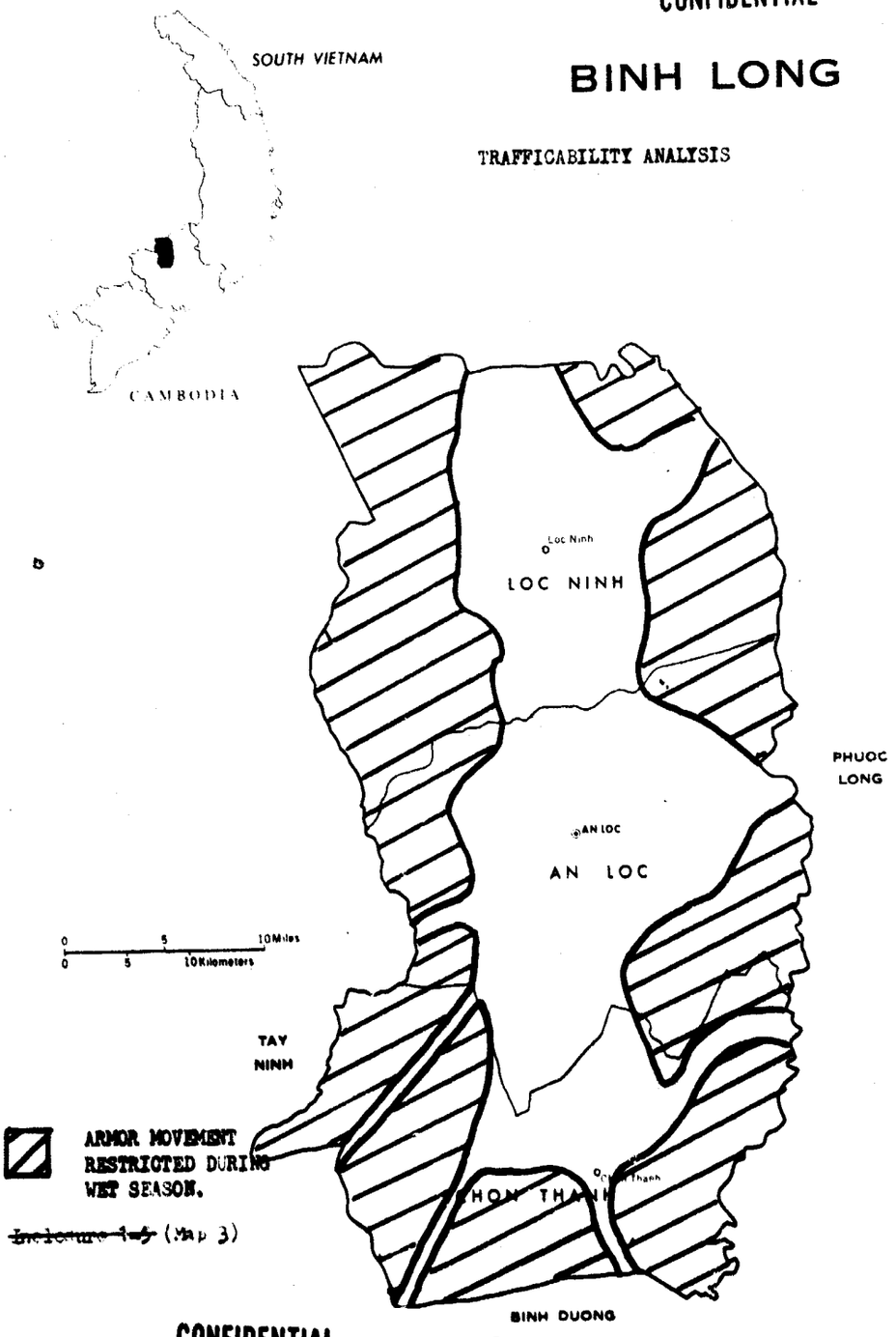
BINH LONG

TRAFFICABILITY ANALYSIS



~~Inclosure 1~~ (Map 3)

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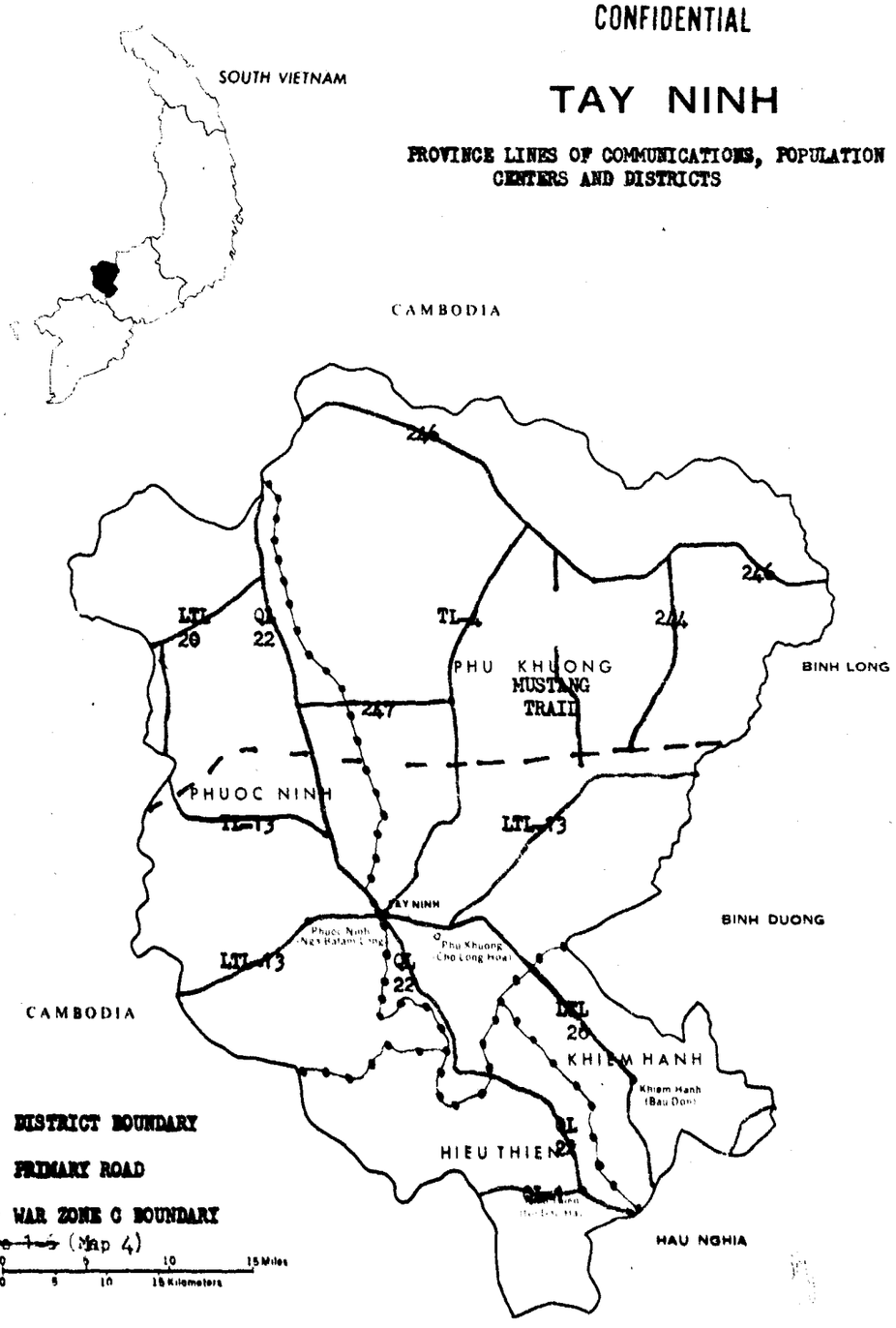
TAY NINH

PROVINCE LINES OF COMMUNICATIONS, POPULATION CENTERS AND DISTRICTS



~~Closure 1-5~~ (Map 4)

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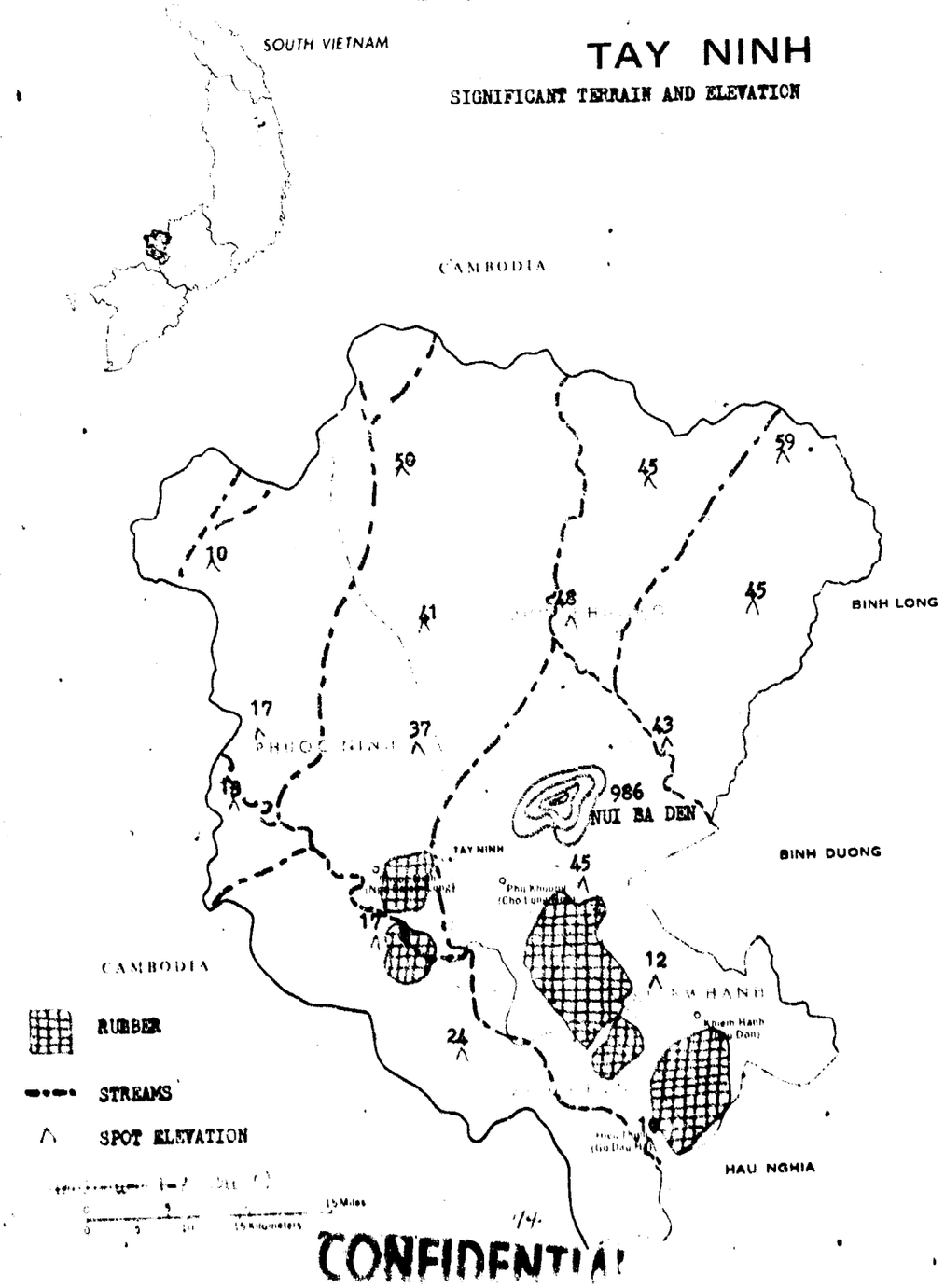

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north-south trails linking Vietnam to Cambodia. As in Binh Long Province, observation for indirect fire weapons is nonexistent and visual reconnaissance is difficult. Cover and concealment for large numbers of enemy troops and supply caches is excellent.

Armor operations can not be conducted in this area during the wet season since the entire area is inundated (Map 6). During the late stages of the dry season, the Regiment conducted successful operations in the area, only limited by the drainage systems and some areas of excessively thick jungle.

There is no pro-GVN population in the War Zone C area.

III. Phuoc Long Province: Phuoc Long Province is located in the northeastern corner of II Corps, bordered on the north and east by the II/III Corps border, Long Khanh Province on the south, Binh Long Province on the west, and the Cambodian border on the north.

QL 14A is the only highway from Binh Long Province to Bo Duc District in northern Phuoc Long Province. This road is regularly interdicted by enemy forces and mines and was open for unrestricted travel only in December 1969 and January 1970 while the Regiment conducted Rome Plow operations from Loc Ninh to Bo Duc. Routes from Bo Duc to Cambodia are blocked at the border. Highway LTL 1A traverses the area generally southeast through the province from Bo Duc to the provincial capital at Phuoc Binh to Dong Xoai and joins the major northeast-southwest highway QL 14 which connects II/III Corps (Map 7). All highways are generally trafficable, but conditions vary from fair to poor due to deterioration. Light weight limits are the most severe restrictions, especially during the rainy season. As in Binh Long Province, French laterite roads crisscross the rubber plantations. The Song Be, Dak Hoyt, and Dak Rat rivers are major obstacles since all three are over 20 meters wide and at least .5 meters deep.

The terrain ranges from rough hills and low mountains along the II/III Corps border to rolling plains in the province center to relatively flat plains in the western province area (Map 8). Nui Ba Ra (723 meters) is the highest terrain feature in the area and competes with the few population centers and rubber plantations as key terrain. Multi-canopied dense undergrowth forest is the dominant natural vegetation, with rubber, upland rice, corn, tara, beans, tobacco, and black peppers as the primary crops.

As in Binh Long Province, the terrain favors the enemy with dense vegetation offering him concealment for large bodies of troops and storage sites. His avenues of approach are generally north-south trails connecting Vietnam to Cambodia hidden beneath the jungle canopy.

Armor operations are possible in the western portions of the province in rubber plantations, on the plains subject to weather, and as vegetation will allow along the roads, but trafficability becomes more restricted to the east and north (Map 9). Helicopter landing zones are primarily along highways giving the enemy, with observation or control of these avenues, early warning of friendly operations.

Phuoc Binh is the major urban area with its population of 21,000, approximately half the province total. The major job source is the rubber plantations which employs 45% of the province labor force with workers

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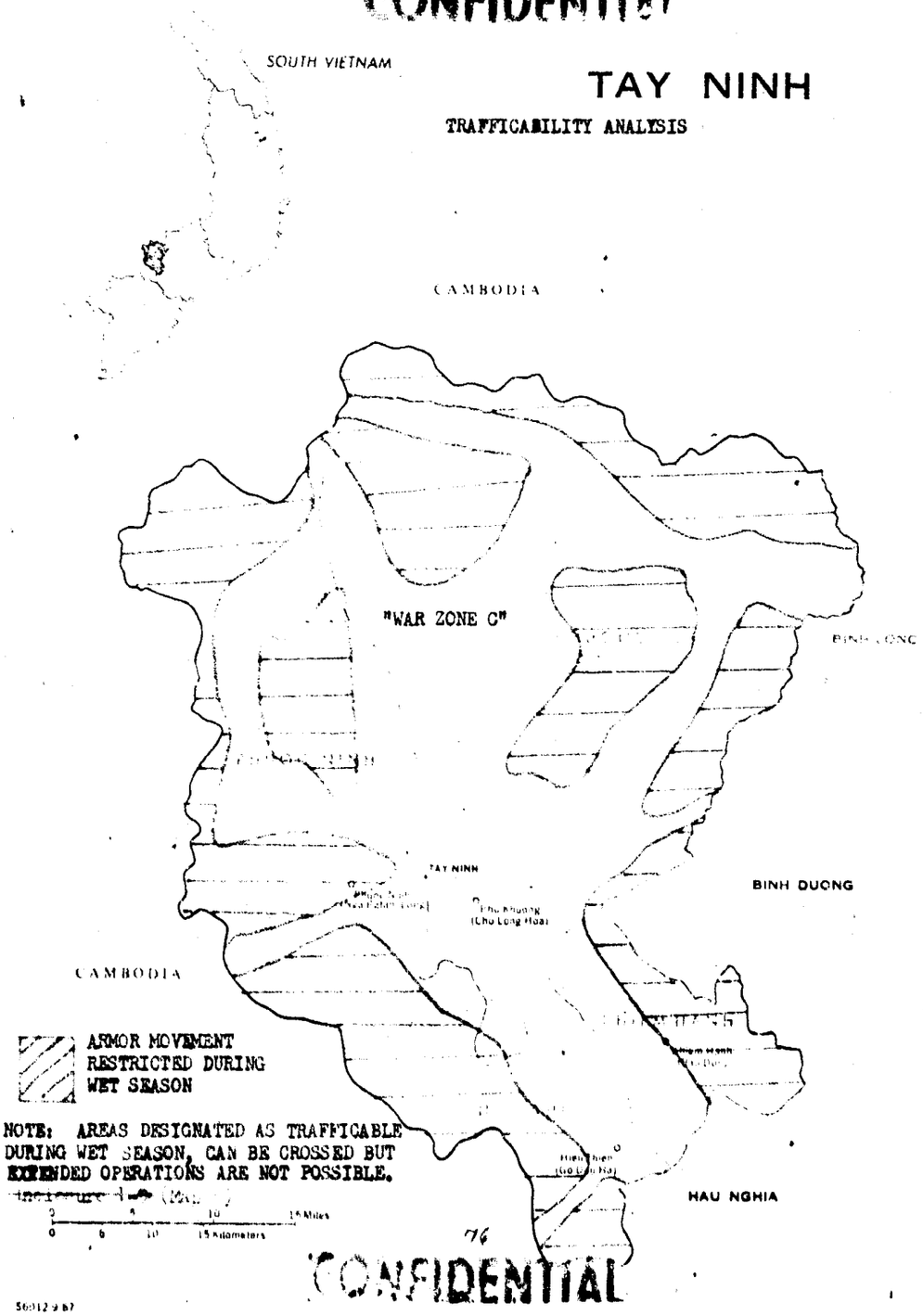

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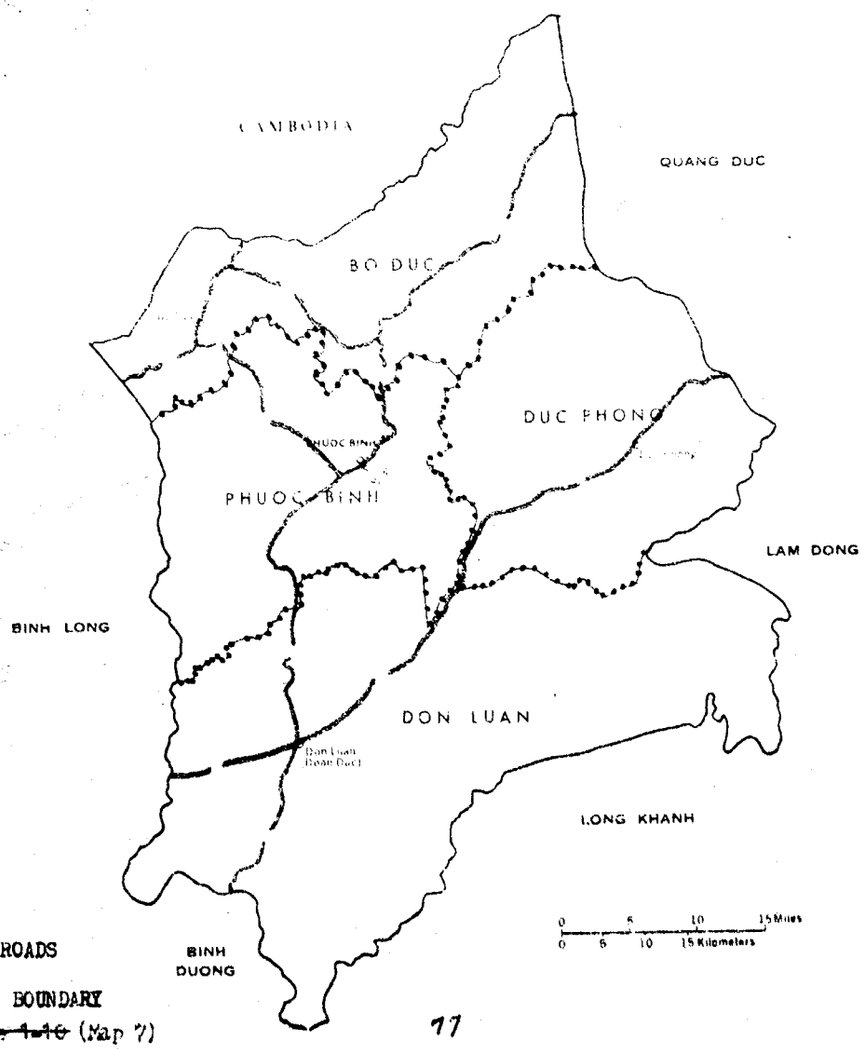
SOUTH VIETNAM

PHUOC LONG

PROVINCE LINES OF COMMUNICATIONS, POPULATION CENTERS, AND DISTRICTS:



PRIMARY ROADS

DISTRICT BOUNDARY

~~Inclosure 1-16~~ (Map 7)

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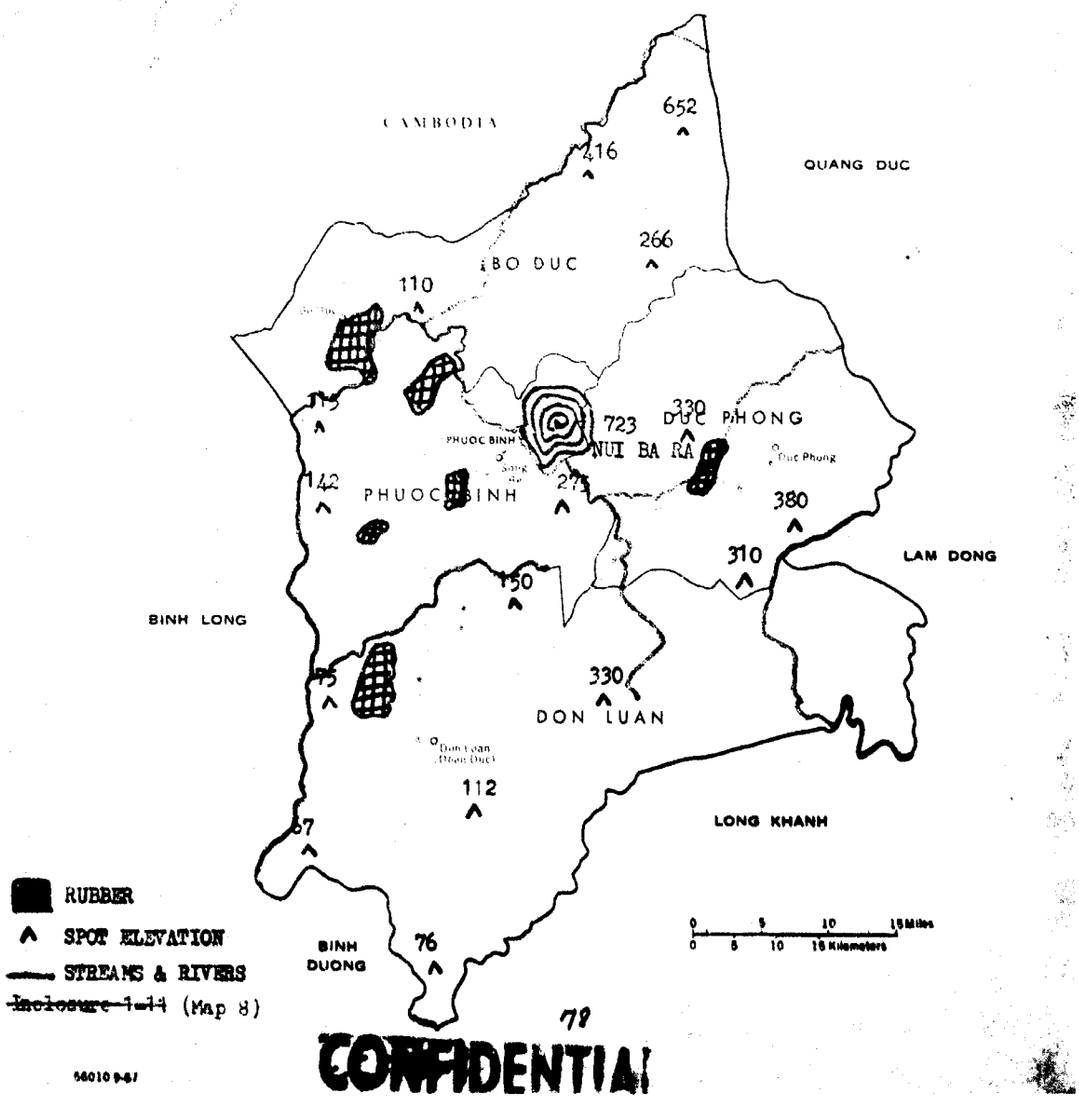
SOUTH VIETNAM

PHUOC LONG

SIGNIFICANT TERRAIN AND ELEVATION



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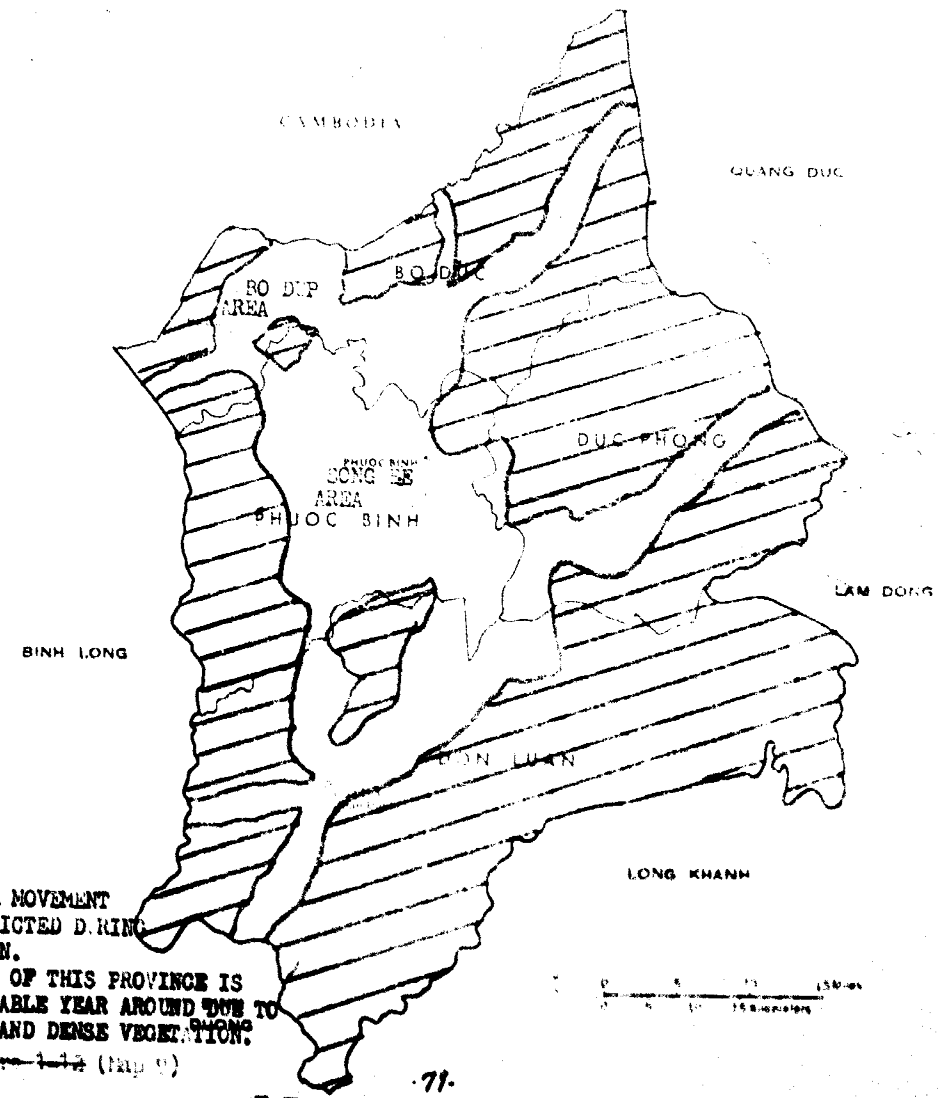
SOUTH VIETNAM

PHUOC LONG

TRAFFICABILITY ANALYSIS



ARMOR MOVEMENT RESTRICTED DURING WET SEASON.

NOTE: MUCH OF THIS PROVINCE IS INACCESSABLE YEAR AROUND DUE TO TERRAIN AND DENSE VEGETATION.

~~Inclosure 1-12~~ (Map 9)

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earning about $VN 2,000 per month. The lack of suitable farm land limits farming to crops for local consumption and, except for the Montagnards, centers the population in villages around the rubber plantations.

IV. Kampong Cham and Kracheh Provinces, Cambodia: The 11 ACR's area of operation during the Cambodia Offensive was adjacent to the Vietnam--Cambodia border in the vicinity of the Fishhook and Flatiron. It is bound on the south by the Vietnam-Cambodian border and extends approximately 15 kilometers into Cambodia. The lines of communication consist of two all weather, hard surface roads (Rts 7 and 13); two fair weather, improved earth roads (Rts 131 and 1311); and a well developed network of foot and cart trails. There is also a well developed network of improved earth roads in the vicinity of the Snuol Plantation. There are three major bridges in the area (Map 10), all are located on Route 7, all have been destroyed, and all were bypassed using AVLB's. The drainage system is composed of four stream networks. These are: the Prek Chriv in the southern and central region; the Stoeng Chrey Meang in the region north and east of Snuol; the Stoeng Sanleng in the region west of Snuol; and the Preck Chhlong in the northern region.

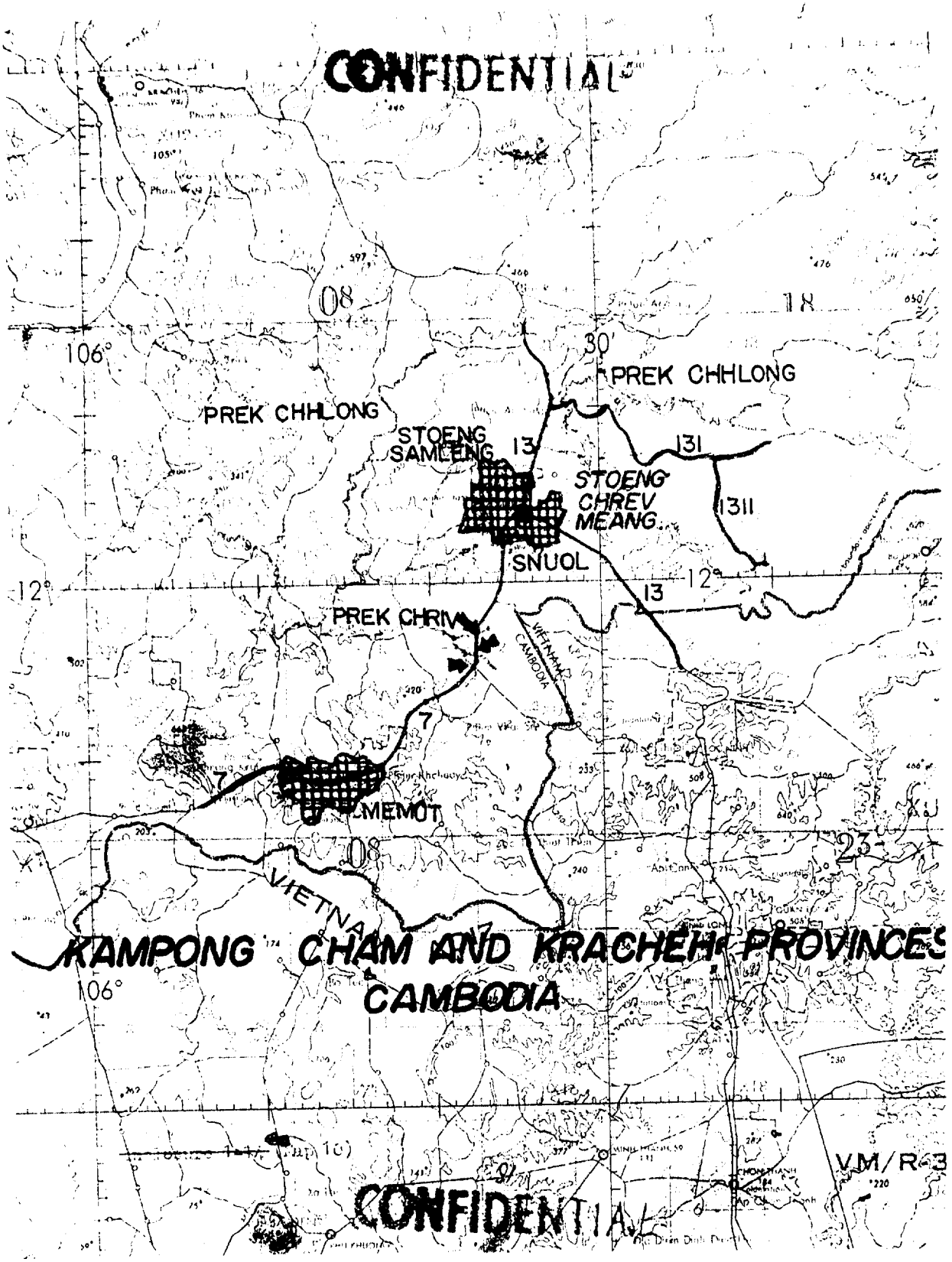
The area is generally gently rolling with numerous stream valleys. There is, however, moderately high relief in the southwestern region of the area. The vegetation is primarily single canopy, light undergrowth forest with numerous open areas and a few areas of multi-canopy, dense undergrowth forest. The latter are generally located in the few areas of relatively high relief and near streams. There are also extensive rubber plantations near the cities of Snuol and Memot. The only population center is the city of Snuol which has a population of approximately 3,000. The remainder of the area is sparsely populated with widely scattered small villages and individual dwellings.

Armor had little trouble operating in this area during the dry season, because, with the exception of a few regions where slopes are moderately steep and the vegetation becomes more dense, the vegetation and slopes place little restriction on movement. The streams, most of which have steep banks, provide some obstacles, but in most instances may be bypassed using AVLB,s. During the wet season most of the area becomes impassable to all vehicles and only limited movement is possible on the roads.

WEATHER

I. General: The climate of the Republic of Vietnam is monsoonal in nature and characterized by two major seasons--the southwest monsoon from mid-May to late September, and the northeast monsoon from early November to mid-March. Separating these two major seasons are two rather short transitional periods during which the wind circulation becomes weak and indefinite. The onset and recession of the monsoon season does not necessarily coincide with the beginning or ending of the rainy or cloudy seasons.

II. Binh Long and Phuoc Long: This area is exposed to the moist winds of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PREK CHHLONG
PREK CHHLONG
STOENG SAMLEING
STOENG CHREV MEANG
SNUOL
PREK CHRIM
MEMOT
VIETNAM
CAMBODIA
KAMPONG CHAM AND KRACHEH PROVINCES
CAMBODIA
106°
12°
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the southwest monsoon and receives its maximum cloudiness and precipitation during this season. The rainy season extends from May through October. Annual rainfall amounts range from about 90 inches in the west to about 120 inches over the mountains in the the east. Much of the rainfall occurs as heavy rainshowers from early afternoon to late at night. In the mountainous sections, light steady rain will occur in the early morning, most frequently in October and November. Cloudiness is frequent over the entire area from May through October, and over the mountains in the afternoon and early evening during the rest of the year. In the early morning and during heavy rainshowers, mountain tops are frequently obscured. The warmest temperatures are recorded during the spring transitional period, just before the onset of the rainy season. During the rest of the year, the maximum temperature is constant. The coolest temperatures are reported during the northeast monsoon and may occasionally be as low as 50 degrees F in the mountains. Early morning relative humidities are high during the entire year. Afternoon humidities are high during the southwest monsoon, but are comparatively low during the northwest monsoon.

III. War Zone C: This area has its rainy season during the southwest monsoon. Annual rainfall ranges from 65 to 85 inches, with most precipitation in the eastern section. Most of the rainfall occurs as rainshowers from early afternoon to late evening. Considerable cloudiness occurs during the southwest monsoon. Broken to overcast conditions occur most of the time from May through October.

IV. Cambodia: The weather in this area is similar to that of the adjacent regions in South Vietnam. The rainy season occurs during the southwest monsoon. Annual rainfall, most of which occurs as early afternoon and evening rainstorms, ranges from 60 to 90 inches.

The southwest monsoon entered the area of operations on 15 May. Although more than 10 inches of rain were recorded for the month of May, rainfall was intermittent and the ground dried between showers. As a result, trafficability was not seriously impeded.

ENEMY FORCES

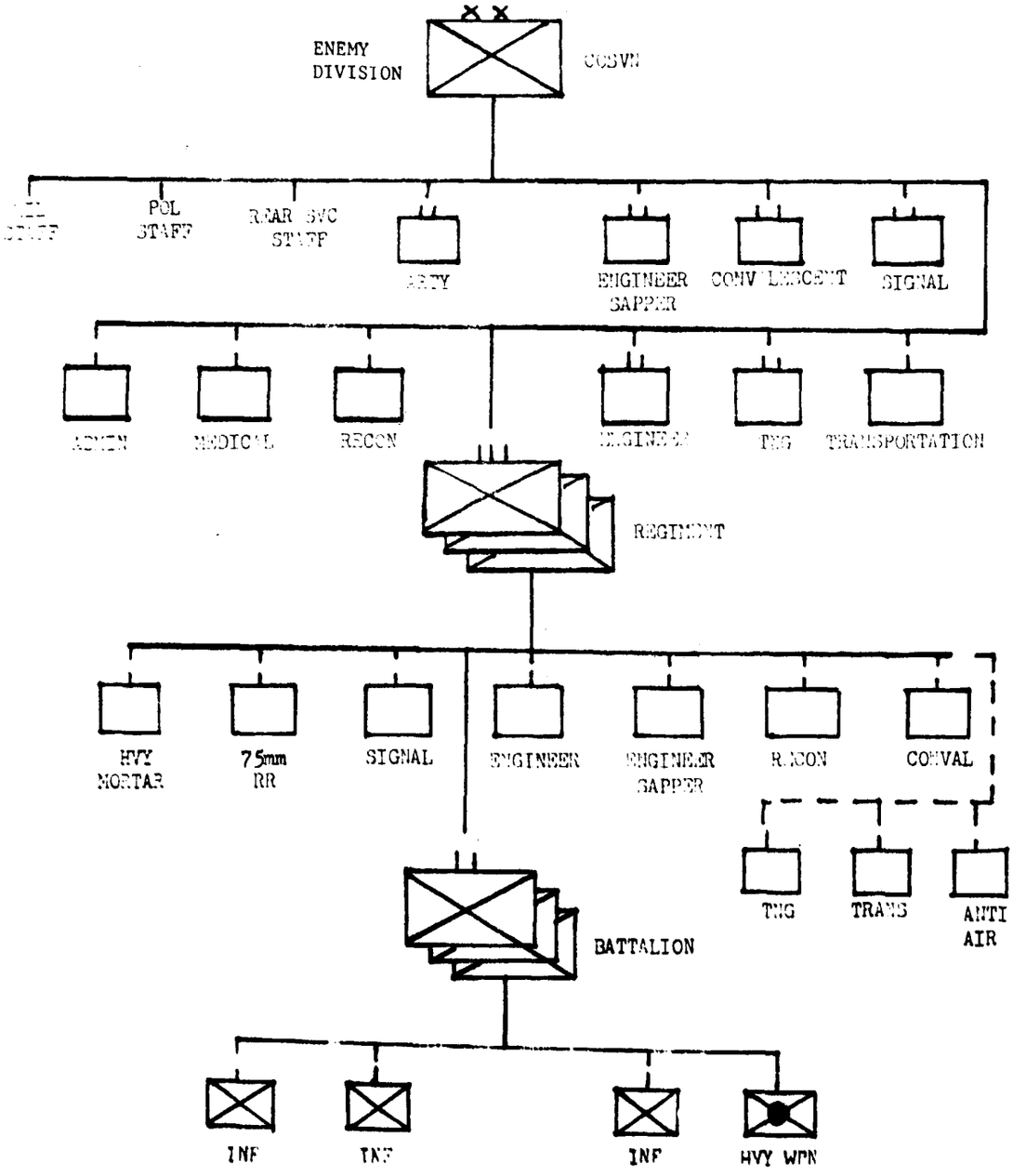
1. The primary enemy forces opposing the 11th Armored Cavalry Regiment have been the 7th NVA Division and the 9th VC Division (Chart 1). Other enemy units include: the 50th Rear Service Group, 69th Artillery Command, 101 NVA Regiment, and elements of the D368 Local Force Battalion. The 7th NVA Division normally headquarters in Base Area 350 and conducts operations in northern and western Binh Long Province and eastern War Zone C. The 9th VC Division operated in War Zone C from the Fish Hook to the Dog's Head Area in western Tay Ninh Province. The 50th Rear Service Group operates from Cambodia through War Zone C to Sub Region 1. The D368 Local Force Battalion operates in the eastern portion of Binh Long Province from An Loc to Loc Ninh.

II. The 7th NVA Division moved to the northern Phuoc Long Province area in November 1969 with a mission of opening the Serges Jungle Highway for infiltration (Map 1). He attempted to do this by conducting attacks against government forces in the Bo Duc District area, but he suffered high casualties and returned to Cambodia in December. In January 1970 he again attempted to open the Serges Jungle Highway with attacks in northern Phuoc Long Province, but in sharp contacts with the Regiment on 20 and 21 January he was again forced back into Cambodia to regroup. In March 1970, elements of the 7th Division's 209th Regiment moved from the Flatiron area to the western edge of the rubber in Loc Ninh District to ambush elements of 3rd Squadron, however, in contacts on 2 and 10 March he lost considerable casualties and weapons and was forced back into Cambodia. In March the division's 165th and 209th Regiments moved to the Fish Hook area with a mission of reopening the Saigon River Corridor.

III. The 9th VC Division operated in the northern portion of War Zone C with a mission of opening the Saigon River Corridor and the supply corridor from north central War Zone C to Tay Ninh City. In March 1970 all elements moved from the Fish Hook area to the vicinity of Base Area 354 to conduct operations in western and southern Tay Ninh Province (Map 2).

IV. Enemy Forces--Cambodia: The enemy forces along the Regiment's Cambodian axis of advance were the 165th and 209th Regiments of the 7th NVA Division. The 141st Regiment had been uncontacted since January 1970; it was presumed in Cambodia, but its disposition, strength, and mission were unknown. On the 21-22 of April, elements of this regiment attacked and seized the Village of Snuol and occupied the district capital.

Enemy action on 1 May 1970 was primarily scattered mining and small tank hunter-killer teams with RPG-7's in the vicinity of the border. Major resistance, probably from a battalion of the 165th Regiment, was encountered after the Regiment penetrated into Cambodia approximately 3 kilometers. Scattered enemy resistance continued, but major enemy units avoided contact and probably slipped around the Regiment's attack in two and three man groups, redeploying the 165th and 209th Regiments to the same areas they occupied prior to the attack.



SCHEMATIC ENEMY INFANTRY DIVISION
WITH ORGANIC ELEMENTS
(Chart 1)

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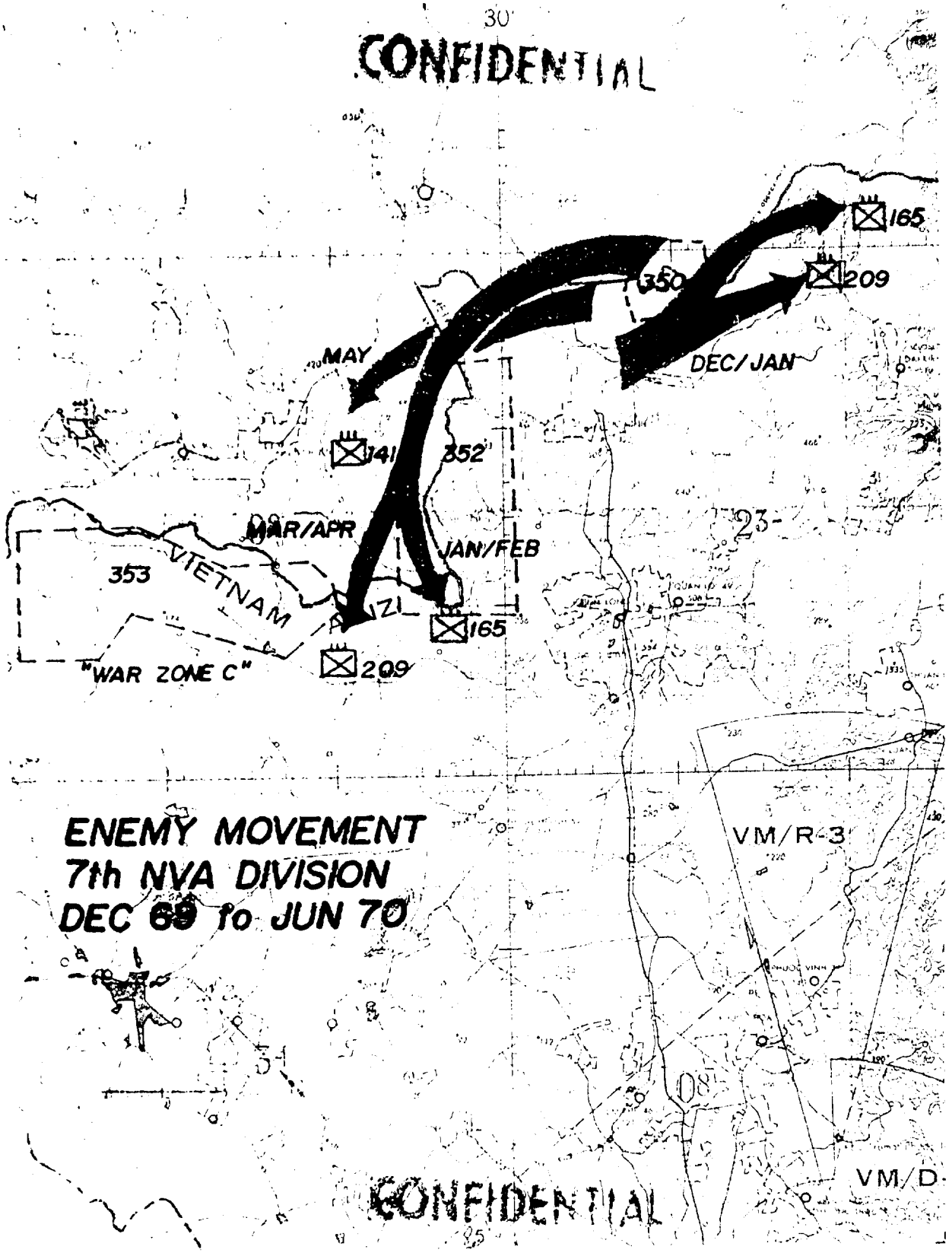

ENEMY MOVEMENT
7th NVA DIVISION
DEC 69 to JUN 70

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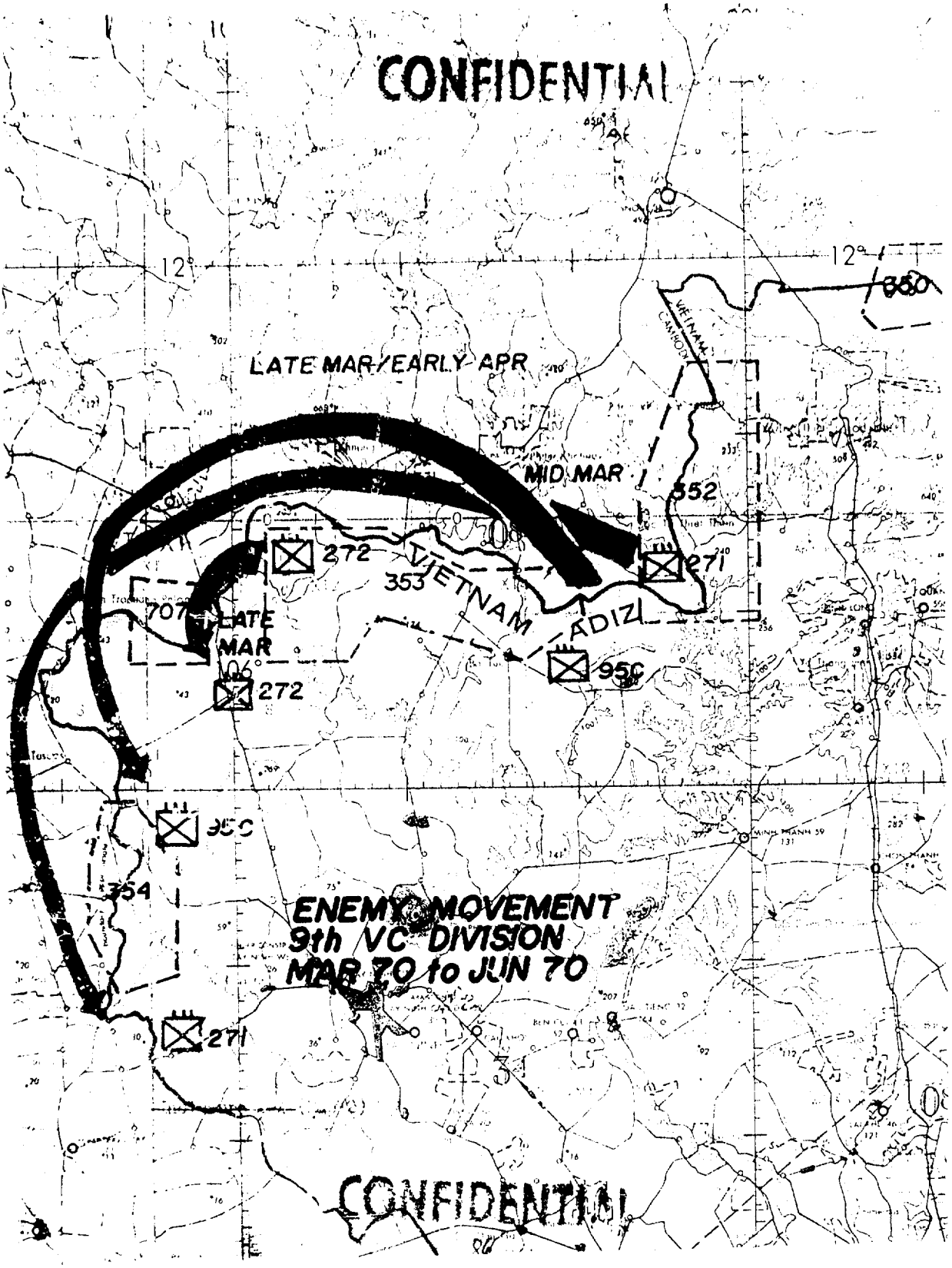
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LATE MAR/EARLY APR
MID MAR
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VIETNAM
ADIZ
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LATE MAR
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ENEMY MOVEMENT
9th VC DIVISION
MAR 70 to JUN 70
271
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The Regiment's attack on Snuol was opposed by elements of the 141st Regiment which withdrew to the northwest. The 141st Regiment was probably assigned the mission of screening the right flank of the new CoSVN base area.

After the initial thrusts and when the allies began cleaning out enemy cache sites, the enemy reorganized. The 165th Regiment was tasked against the ARVN airborne units in the Fish Hook. The 209th Regiment screened the Memot area and sent elements to the Katum area. Allied thrusts into the area north of Bo Dup forced the 5th VC Division to relocate into the dense jungle north of Phuoc Long Province. The 50th Rear Service Group, maintaining the extensive logistical bases in the area, avoided contact and withdrew north of Snuol. The extent of damage to the enemy's supply system cannot be judged, but caches such as "the city", found northwest of the flatiron, indicate that he was unable to remove all prestocked supplies. Other enemy forces in the area capable of influencing operations were various infiltration and training groups yet unassigned to enemy maneuver units. These groups played a limited combat role and were used primarily to evacuate supplies and personnel.

Although the enemy's basic supply and transportation system was known, the discovery of a massive medical and evacuation system was a surprise. Captured documents indicate that the 90th, 92nd, and 94th Recovery and Replacement Regiments, under the direct control of the political and rear service staffs of South Vietnam Liberation Army, had been formed to provide medical and political services, allowing the rear service groups to concentrate on their primary mission of moving supplies and equipment into RVN.

ENEMY TACTICS AND TECHNIQUES

I. Ground Infiltration Routes: The enemy forces continue to use the same major infiltration routes from Cambodian sanctuaries to his objective areas. The primary routes within the 11th Armored Cavalry Regiment's area of operations are basically: from Base Area 353 south and southeast to the Saigon River and south to Sub Region 1, from the Fish Hook area directly east to the An Loc area, from Base Area 352 (Platiron) southeast to An Loc or east to Loc Ninh, Base Area 350 south to Loc Ninh or An Loc and from Base 351 south to Bo Duc and Song Be City (provincial capital of Phuoc Long Province). The vegetation in all of these primary routes provides excellent concealment of movement to and from the objective area and it provides relatively secure forward supply storage areas.

The major Cambodia to Saigon corridors are the Saigon River Corridor between Tay Ninh and Binh Long Provinces and the Serges Jungle Highway between Binh Long and Phuoc Long Provinces. The primary routes run along provincial boundaries and infiltration on the routes can be successful due to lack of coordination between the GVN provinces (Map 1).

II. Use of Day and Night Tactics: The enemy conducted most of his movements, preparations, and attacks during the night. Night operations were generally attacks by fire only, attacks by fire supporting ground probes or sapper attacks, or simple small arms and RPG harrassment attacks, and mining of lines of communication. Past intelligence indicates that the enemy begins movement just prior to dark and he ceases movement just after first light.

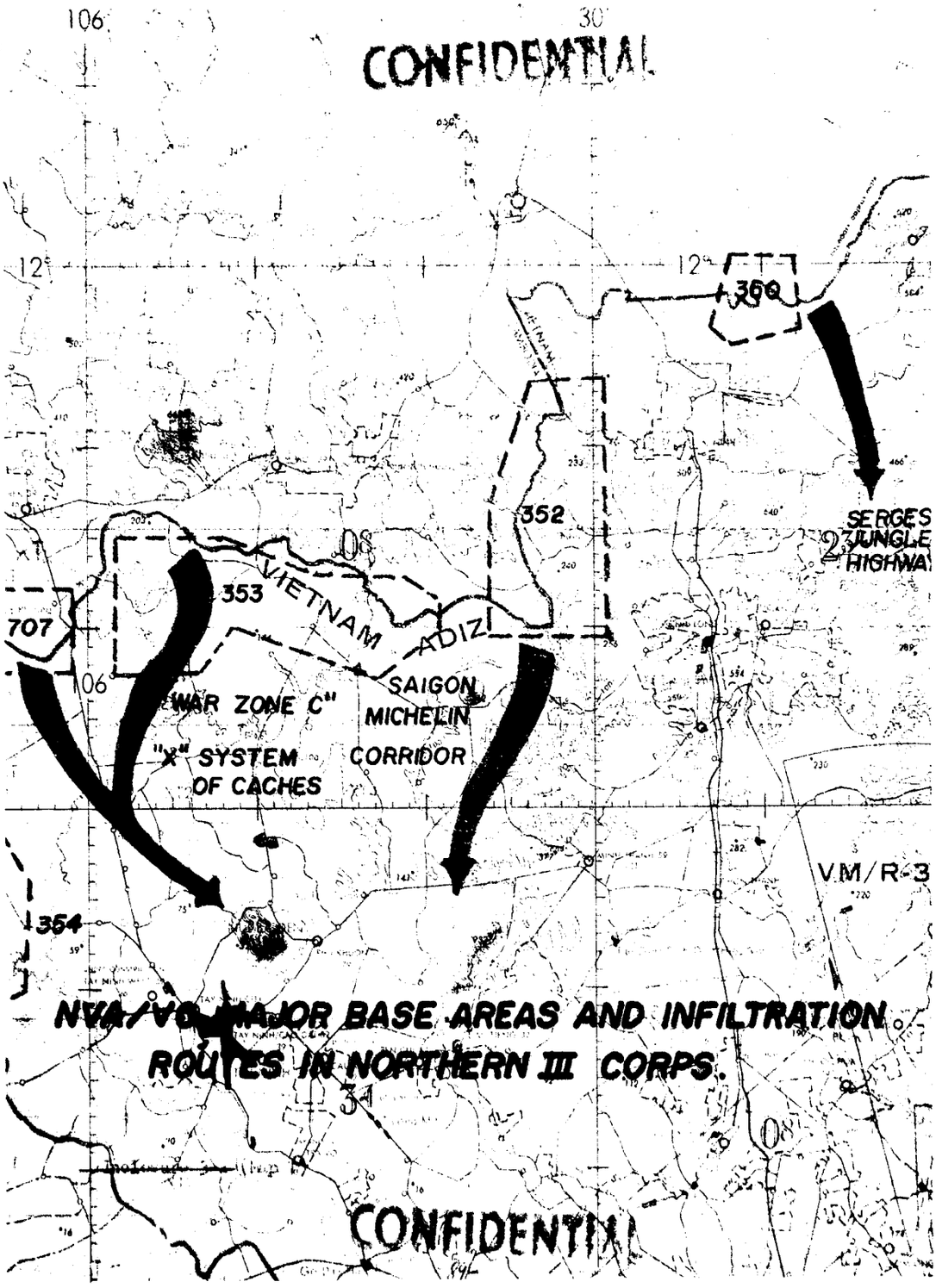
On most occasions, the primary enemy daylight offensives were limited to ambushes. The enemy would move to the ambush site during the hours of darkness, prepare the site by building bunkers, fighting positions, and anti-aircraft weapons positions and wait in this position until a friendly unit entered the area. This wait may last for two or three days. In April 1970, the Regiment began experiencing new daylight tactics of the enemy in the jungle areas of War Zone C. During the day time, the enemy would initially engage the friendly force with one or two rounds of RPG fire and a very minimal amount of small arms fire and immediately withdraw.

III. Deliberate Methods of Planning and Preparation: The enemy deliberately plans all operations and prepares his positions, routes of movement, routes of withdrawal and methods of evacuation in minute detail.

His reconnaissance is very detailed, from map studies and extensive ground reconnaissance, by reconnaissance elements and ground commanders at all levels. During his planning, mortar firing positions and targets for each mortar are determined. The number of rounds to be fired by each mortar is also planned and directed.

His logistical support is methodically planned and the supplies are emplaced well forward prior to the attack. His medical evacuation is also incorporated as evidenced in the attack against Fire Support Base Defiance. Rally points and evacuation routes are planned and reconnoitered by all personnel.

His attack is initiated at a prescribed time or upon the initial burst of the supporting mortars.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SERGES
JUNGLE
HIGHWA
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VIETNAM
ADIZ
707
06
SAIGON
"WAR ZONE C"
MICHELIN
"X" SYSTEM
OF CACHES
CORRIDOR
VM/R-3
354
NVA/VC MAJOR BASE AREAS AND INFILTRATION
ROUTES IN NORTHERN III CORPS
31
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Recent intelligence indicates that the enemy is making better use of coordinated fire planning. Attacks on three fire support bases in the Dog's Head area in April included heavy bombardments from several artillery units in separate locations.

Although the planning of an attack is very detailed, the plan does not provide any flexibility. If a unit starts his portion of the attack early then the attack has limited chances of being successful. If a friendly unit reacts violently to enemy sightings or radar readings, the attack will fail as evidenced by an attack against FSB Kramer on 15 April 1970 which was squelched by a preplanned "mad minute" firing of all perimeter weapons while the enemy was moving to the attack positions.

IV. A Creature of Habit: The enemy continues to use the same trail systems, movement procedures, basic attack plans and attack areas that he has used previously. For example, elements of the 7th NVA Division have used the same areas for fortified positions in August and September 1969 and again in January and March 1970 in the Loc Ninh District. The areas used are not more than 1000 meters away from areas used previously.

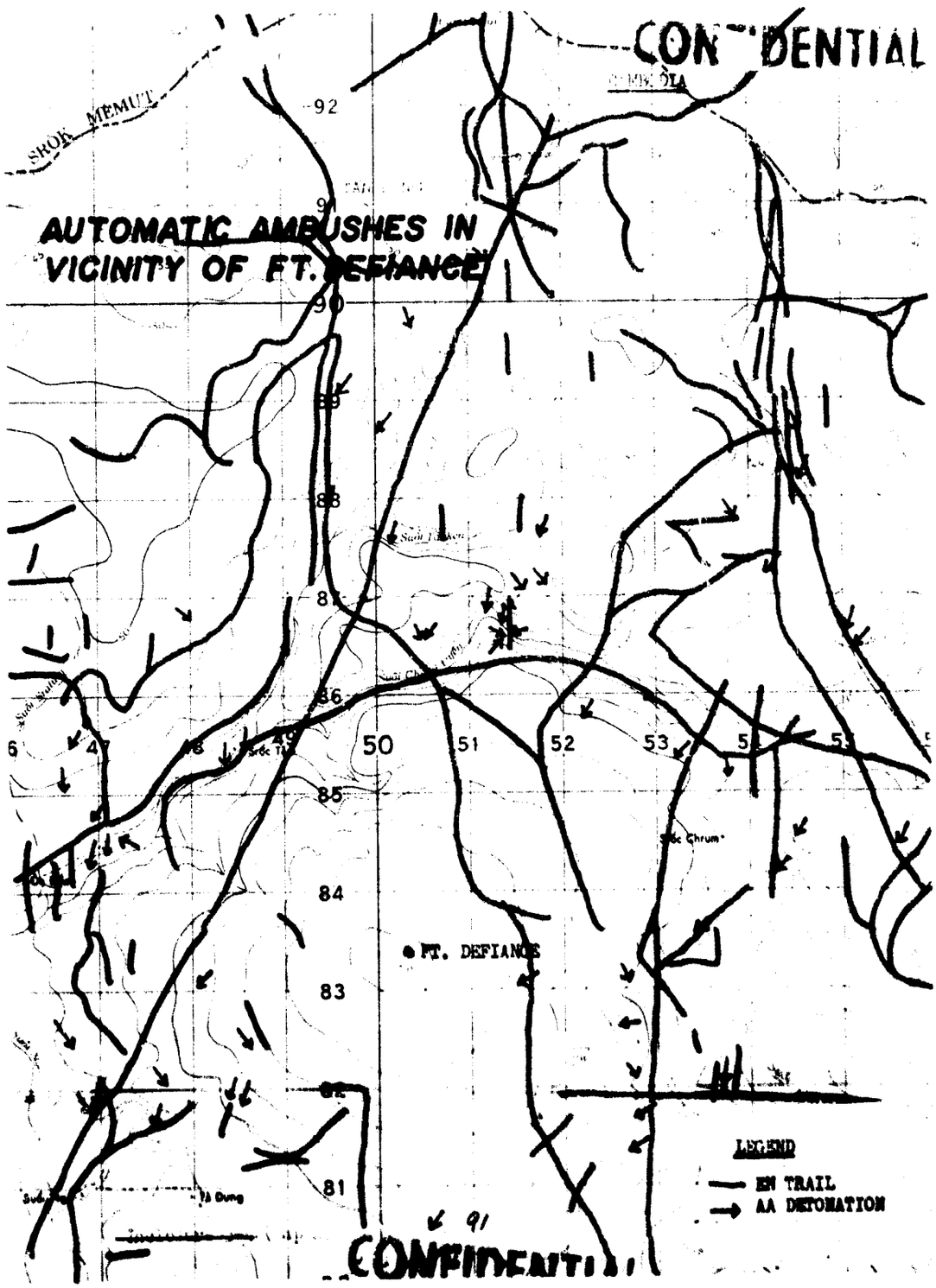
In War Zone C, the enemy continuously uses the same trail network north of highway 246 (Map 2). In February and March the Regiment emplaced automatic ambushes on these trails to stop enemy movement from north to south. For approximately four weeks the automatic ambushes continuously detonated on the same trails, before the enemy relocated his operations to the west or east. A total of 68 automatic ambushes detonated killing 115 NVA.

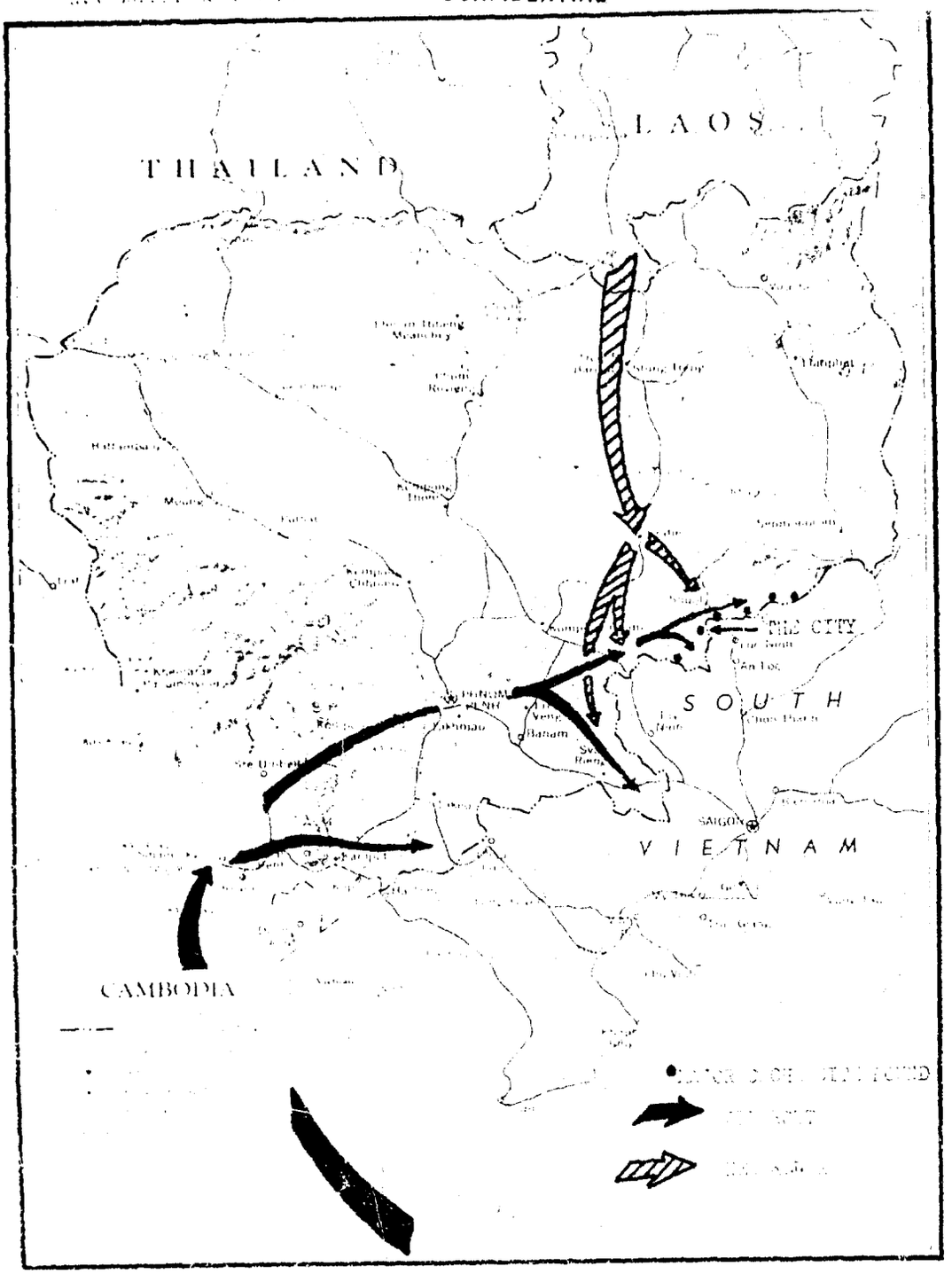
V. NVA Logistic Preparations and Support in War Zone C: Until recent interdictions by 11th ACR and 1st ACD units, the 9th and 7th Divisions, operating in Tay Ninh Province, had three well developed and efficient logistical systems. The X system of caches, each cache approximately one day's walk from the previous site, radiates from the Dog's Neck Region of western Tay Ninh throughout the remainder of War Zone C.

The operations of the 82nd RSG forms the second primary mode of logistical support for 9th Division elements operating in western Tay Ninh Province. Periodically main force units will retire across the border to the southern portion of BA353 where they will receive supplies and replacements. If they remain in Tay Ninh Province proper, elements of the 82nd RSG will filter supplies through the series of high speed trails in the region.

The 50th Rear Service Group operating from the Fish Hook region of BA352 forms the third source of NVA supplies; Branches 8,9, and 10 Transportation and Storage Units operate in the eastern portion of the province and serve to equip enemy units operating in or near the area. Both the Fish Hook and BA 353 contain extensive cache sites and these large supplies of weapons and food across the border serve as an easy means for the replenishment of losses suffered by main force units in War Zone C.

VI. NVA Logistical System in Cambodia (Map 3): Although US Intelligence had accumulated information on the NVA/VC logistical system in Cambodia and South Vietnam, detailed information on the exact daily functioning of the system was unknown. Operation Toan Thang 43 has revealed much additional information





and several surprises about the system that were unknown. The operations in Cambodia will force the NVA to completely reorganize this system. The best way to see these results and forced changes is by viewing the past operations, impact of the allied operations, and what the future can expect to develop based on current intelligence.

Prior to Operation Toan Thang 43, the system of supply of the NVA utilized ocean shipping, major trucking firms, and rear area and forward area Rear Service Groups. All munitions and weapons had to be shipped into the base areas from communist block countries. To facilitate this the communists were allowed free use of the Cambodian port of Sihanoukville. Munitions and weapons unloaded at this ocean port were then trucked on highway 7 to the various base areas along the Cambodian border. Generally speaking the supplies were unloaded at cache sites and depots within 8 KM's of the South Vietnamese border. These large stocks of supplies were maintained by rear service elements and groups operating solely in Cambodia. "The City" is perhaps the best example of such a major supply point discovered to date by US forces. From these depot areas supplies were trucked and carried closer to the border to numerous smaller cache sites by rear service groups that operated both in Cambodia and SVN. Many small cache sites of both munitions and food and medical supplies were found right on the border or within 4 KM's of the border. From here rear service transportation units moved the supplies into South Vietnam by bicycle or manpack. NVA units in the area also had their own transportation companies that would travel to the border cache sites and return with needed supplies. In the latter part of 1969 and 1970, combat maneuver elements also had to send combat troops to procure supplies as increasingly effective allied operations interdicted in-country cache sites. Food and a large portion of medicine had to be procured locally by the using unit although some food and medical supplies were purchased in Cambodia and transported in-country to units based in areas with little population such as War Zone C. The Allied rice denial program forced the NVA/VC to begin large scale food production in Cambodia which eventually increased alienation in the border areas between Cambodian administrators and NVA/VC forces, and was one of the many pressures that lead up to the coup d'etat against Sihanouk. This then was the basic system that existed prior to the fall of Sihanouk and Operation Toan Thang 43.

Much new intelligence was gained on the enemy system as Allied units thrust into Cambodia. Although the basic system for procurement and transporting of supplies was confirmed, the discovery of a massive medical and evacuation system was a real surprise. Prior to Toan Thang 43 care of wounded and sick enemy personnel was believed shared by the divisional medical battalions and companies and the rear service groups which maintained hospitals in Cambodia. Toan Thang 43 led to the discovery and identification of a divisional size medical effort to treat enemy wounded and sick personnel. Documents captured by the 25th Infantry Division indicated that a 92nd Recovery and Replacement Regiment was activated in July of 1969. The Regiment was reported to have been completely organized and operational by August 1969. Two sister regiments have been identified also--the 90th and the 94th RR Regiments. Of the three the 92nd is the best documented. The 92nd RR Regiment was organized from personnel and equipment from the 90th RSG and the

90th RSG. The 92nd Rear Regiment was placed under the direct control of the HQ, SVNLA military, political, and rear service staffs. Specialized personnel and equipment from the rear service groups merely remained in place and were reassigned to the new regiment. The regiment was probably organized to alleviate the ever increasing effort of caring for sick and wounded personnel. The rear service groups were allowed to concentrate on their primary missions of moving supplies and equipment into SVN. The new regiment established extensive hospital and medical facilities in the old COSVN Base Area. The regiment also conducted political training for all personnel prior to their being returned to combat units. The picture available to date indicates that a large increase in both medical and wounded casualties must have forced this reorganization. The effort on political training indicates that the communists are possibly experiencing a morale problem in their wounded. In many instances, the 92nd Regiment turned patients loose on their own to rally or be captured by the 11th ACR.

Although the basic system of enemy resupply will not be drastically changed, some major readjusting will be forced on him by the new situation. If ARVN and Cambodian efforts close Sihanoukville to communist shipping, a new major effective supply route will have to be established to get munitions and weapons into the III and IV Corps area if the war in these areas is to continue at all. With the seizure of several major cities along the Mekong River between the COSVN Base Area and Laos, indications are that the enemy may be considering replacing ocean shipping with river shipping for massive munitions movement. Such a plan would only be successful if he also controlled the area around the Mekong River. To date indications are that the enemy is making extensive plans for the occupation of Cambodian territory from the Mekong to the SVN border. From the Mekong he can truck his supplies into the new COSVN Base Area. Recent noticed interest on local production teams and forced labor teams indicates that the NVA intend to use the human and natural resources of the area for their war effort. Because there is no real assurance that allied thrusts will not be conducted again, the enemy will be forced to locate all major storage facilities further into Cambodia and increase the distance and manpower needed to get supplies to the using units. In addition, the constant allied threat to these supply bases will possibly cost him combat troops to guard supply depots and routes. The enemy is also expected to disperse supply sites over wider areas and no longer concentrate in depots which will again cost him more manpower and time.

VII. NVA Weapons and Their Employment:

The principle weapons employed by the enemy include:

1. Individual weapons: AK-47, SKS, K-54 pistol.

2. Crew served weapons: RPG-2, RPG-7, 57mm and 75mm recoilless rifle, 7.62mm machine guns, .51 caliber heavy machine gun, 60mm and 82mm mortar.

3. Other weapons employed during attacks on fire support bases and fixed installations include 120mm mortar, 122mm rocket, 107mm rocket, and the B-20 rocket (over caliber 107mm rocket).

The RPG-2 (B-40) and the RPG-7 (B-41) are the versatile weapons available to the enemy. The rocket propelled grenade launcher is an all purpose weapon, very easy for one man to carry with ammunition, high armor capability (the

RPG-7 will penetrate 14" of armor), very accurate, and a high rate of fire (4-6 rounds per minute). The RPG is also a very effective anti-personnel weapon when fired into trees to create a raining shrapnel effect.

An NVA battalion, with supporting heavy weapons companies, is normally the smallest unit involved in offensive operations. With thorough reconnaissance of the attack position, maximum effective utilization of the terrain, and proper placement of weapons, the enemy creates a very formidable position. The firepower of all available weapons are coordinated in the greatest detail. Chart 1 indicates the approximate number of weapons available to support his attack.

The enemy attack is characterized by a very heavy volume of direct fire in the killing zone, heavy RPG fire on the front and rear of the friendly unit, mortar fire in the killing zones and mines in front of the enemy position.

With the violence of the attack the enemy immediately acquires fire superiority. If his initial attack is successful he will move against the friendly force to keep him pinned down, unable to withdraw and call for supporting artillery and air support. With the weapons available, the enemy gains immediate fire superiority over an attacked US infantry force. He will maintain the fire superiority as long as he can keep the friendly force decisively engaged. When engaging an armor unit, his fire superiority is short lived if the armor unit brings all organic firepower to bear. The artillery, helicopter, and USAF support of a contact involving armor units is used primarily to block enemy routes of withdrawal and destroy the enemy when he loses fire superiority and withdraws. Because of the above, large scale enemy initiated contacts against armor units last a maximum of two hours, whereas such contacts against infantry units have lasted for as long as 8 hours.

VIII. Sapper Raids - The Attack on Fire Support Base Carolyn: The combined attack by fire and sapper attack against FSB Carolyn on 15 January 1970 marked the first indication in War Zone C that TOE infantry units had been retrained as sappers while still remaining in main force maneuver structure.

FSB Carolyn was occupied by a company of the 2nd ARVN Airborne Battalion until 14 January when it was joined by A Troop, 1st Squadron. The enemy had conducted his normal thorough reconnaissance prior to 12 January 1970, returned to his base area in northern Tay Ninh Province, and the main body moved to the attack position on 14 January.

At 0415 hours, one hundred (100) rounds of 60mm and 80mm mortar impacted on the FSB. At 0430 hours the sapper probe began. Within the hour the attack was over, with 19 NVA dead, one PW, and 6 individual and 4 crew-served weapons captured. The PW, captured by the 2nd ARVN Airborne Battalion and A/1/11 ACR identified his unit as the first sapper company, second battalion, 272nd Regiment, 9th VC Division. The PW also indicated that twenty (20) sappers were involved in the attack.

There have not been firm indications that additional TOE infantry units of the 9th and the 7th Divisions have undergone sapper training since this attack.

IX. Ambush--Loc Ninh Rubber Plantation (Sketch 1): On 21 January 1970 B and

WEAPON COMPARISION CHART

US ARMD CAV TRP

Rifle 5.56 -- 117

Pistol .45 cal -- 18

Grenade Launcher M-79 -- 21

MG 7.62mm -- 36

MG .50 cal -- 33

152mm Gun -- 9

81mm Mortar -- 3
w/carriers

[illegible] INF RIFLE CO

Rifle 5.56 -- 161

Pistol .45 cal -- 15

Grenade Launcher M-79 -- 24

MG 7.62mm -- 6

Recoilles Rifle 90mm -- 3

81mm Mortar -- 3

ENEMY BAT (approx)

AK-47; CKC; SKS -- 400

K-54 Pistol -- 20

RPD LMG -- 3 to 5

.30, .51 & 7.62 MG -- UNK

57 & 75mm Recoilless Rifle -- 1 to 3

AT Mines -- 40 to 60

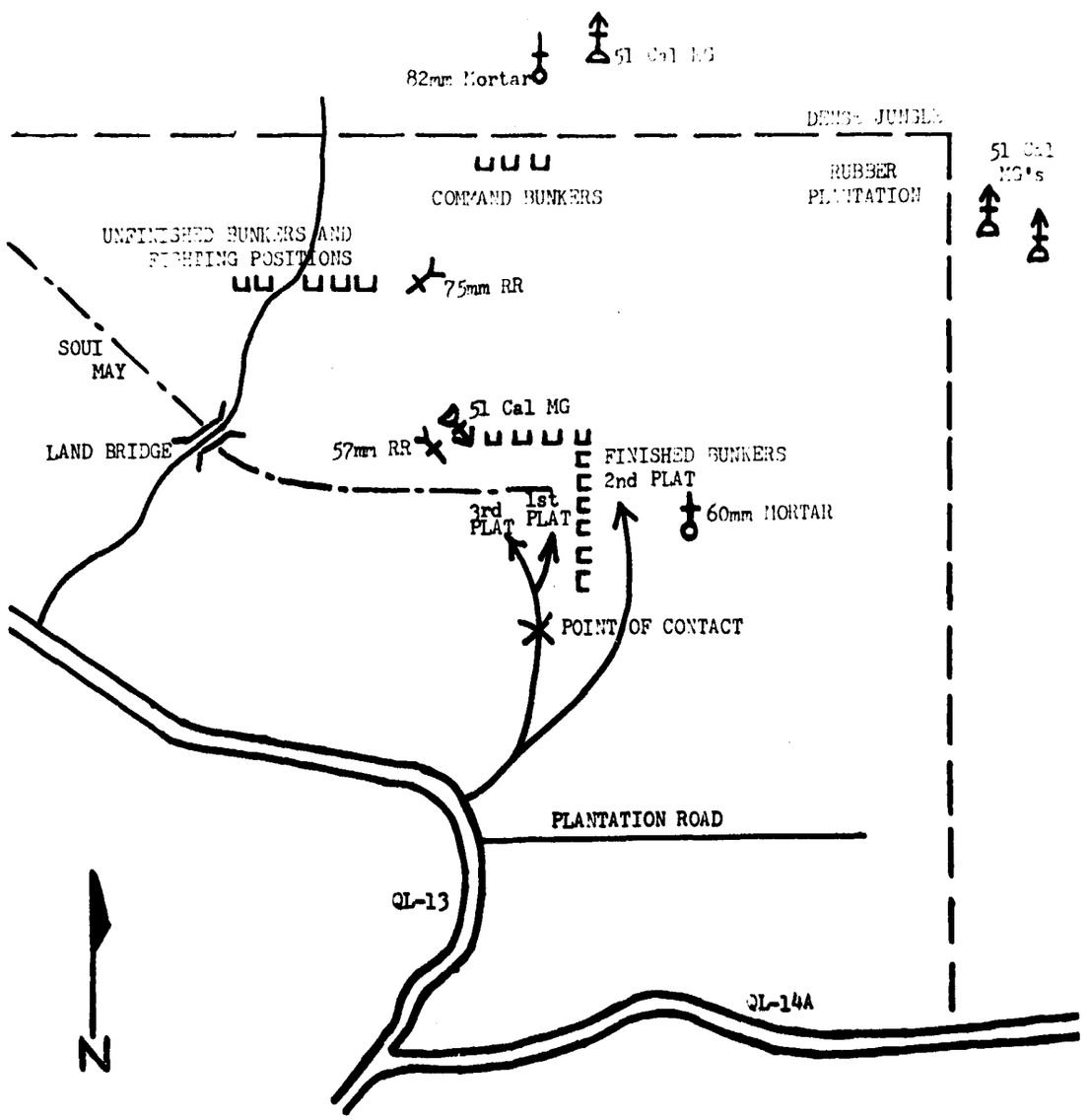
60mm Mortar -- 10 to 15

82mm Mortar -- 3 to 5

B-40 Rocket Launcher -- 20

B-41 Rocket Launcher -- 20

Each man carries an AK-47, CKC, or SKS rifle with 100 to 200 rds of ammo plus 3 Chicom grenades.



NOT TO SCALE

(Sketch 1)

C Troops encountered an NVA ambush in the rubber plantation north of the junction of highways QL 13 and QL 14A. The 1st Battalion, 141 Regiment, 7th NVA Division had moved into the rubber plantation during the night of 20-21 January and had established two company sized ambush positions. The enemy established a command post inside the rubber and emplaced wire to each of the ambush positions. Four .51 caliber AA machine guns, two mortars, and two recoilless rifles were emplaced to support the ambushing forces. The third company was never contacted, however, it is felt that it was deployed north of the rubber in a reserve role.

At 0720 hours C Troop, moving south on QL 13 noticed that the rubber workers were all moving south out of the rubber. C Troop then entered the plantation road and immediately turned north in column formation with the 3rd platoon leading. As the lead vehicle, an M551 Sheridan approached the Suoi Noy stream, it was engaged from the northwest by .51 caliber machine gun fire. Third platoon immediately moved toward the fire and began receiving heavy RPG fire from well camouflaged bunkers on the right flank. The 1st and 2nd platoons maneuvered to the flank of 3rd platoon as indicated on the sketch. During the initial phases of the engagement the mortars were fired against C Troop, but the rounds all impacted 20-30 meters south of C Troop's positions. The anti-aircraft weapons engaged helicopters immediately and did so until they were destroyed by helicopter gunships and TAC Air.

B Troop moved north on QL 13 and became engaged with the second position at 0919 hours as they crossed the land bridge.

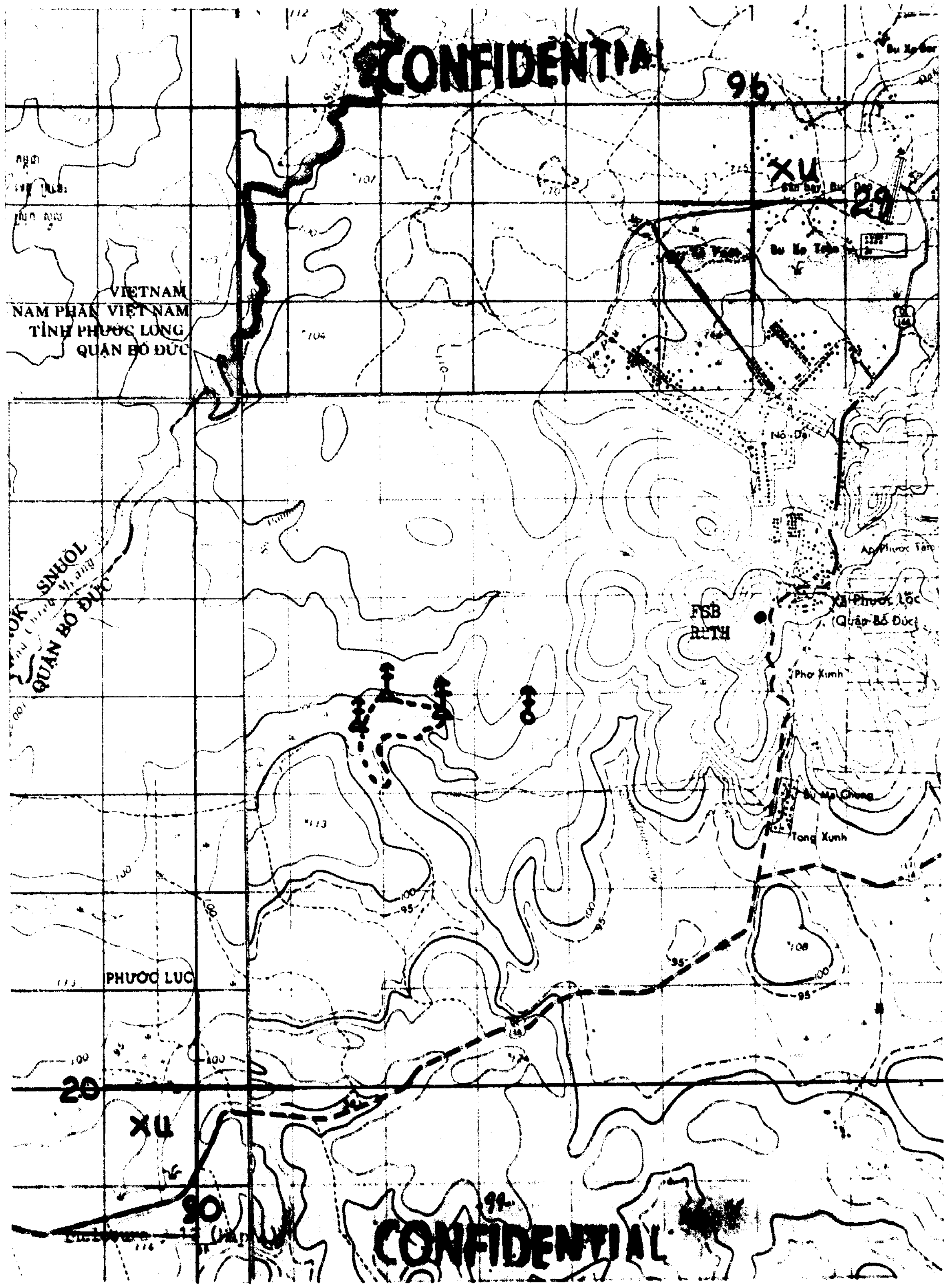
The enemy forces withdrew to the east from C Troop's area and to the north from B Troop's area and left some 35 KIA on the battlefield. Friendly forces captured one 75mm recoilless rifle, one 57mm recoilless rifle, one 60mm mortar, and numerous rounds of mortar, RPG and small arms ammunition.

The ambush position encountered by C Troop was the typical "L" shaped ambush position. The northern most positions opened fire first while the forces on the east waited for the friendly unit deployment prior to opening fire. The ambush was initiated prematurely by the .51 caliber machine gun. If the .51 caliber had waited approximately ten minutes, more vehicles would have been in the killing zone, and the effect of the ambush would have been greater. Documents captured after the contact indicated that forces from each position were to reinforce each other. B Troop caught the 75mm Recoilless rifle crew in the open, possibly moving to reinforce C Troop's area.

X. Defeat of an LZ Ambush--Fire Support Base Ruth and the Fight in the Crescent near Bu Dop (Map 4): This enemy attack took place on 20 January 1970 in Bo Duc District, Phuoc Long Province. The action was basically a two phase attack; first an attack by fire on a fire support base and second an ambush against a most likely helicopter landing zone.

Between the hours of 0640 and 0846, fifty (50) rounds of 82mm and 120mm mortar impacted in the vicinity of FSB Ruth, the majority landing outside of the perimeter. Another forty-one (41) rounds impacted between 1055 and 1115 hours, again mostly outside of the perimeter.

Immediately upon receipt of the incoming mortar rounds, a pink team (one OH6A plus one AH1G) from the Air Cav Troop was called to the area in an attempt to find the mortar location. The suspected mortar position is indi-


CONFIDENTIAL
96
XU
29
VIETNAM
NAM PHAN VIET NAM
TINH PHUOC LONG
QUAN BO DUC
QUAN BO DUC
FSB
RUTH
Phuoc Loc
(Quan Bo Duc)
Pho Xunh
Tong Xunh
PHUOC LUC
20
XU
90
CONFIDENTIAL

cated on Map 4.

During the reconnaissance by the OH6A, it was engaged by .51 caliber fire from the eastern AA position. The OH6A crashed in the "crescent area" between the AA positions, killing the scout observer and lightly wounding the scout pilot. The Aero Rifle Platoon of the Air Cav Troop was called into the area to rescue the downed helicopter crew members; however, due to heavy .51 caliber ground to air fire from all three positions, the platoon was held at the Su Dop airstrip until the fire could be suppressed by armed helicopters and TAC Air.

During the fire suppression activities on AH1G flew into the crescent area at a low altitude, fired 40mm grenade launchers and machine guns, and landed to pick up the wounded scout pilot. During take off the AH1G received very heavy AA fire, but the helicopter departed the area without receiving any hits. The recovered scout pilot broadcast on the squadron command net that the area contained many enemy forces and the three .51 caliber positions, which set off a large scale ground attack by F and G Troops and H Company.

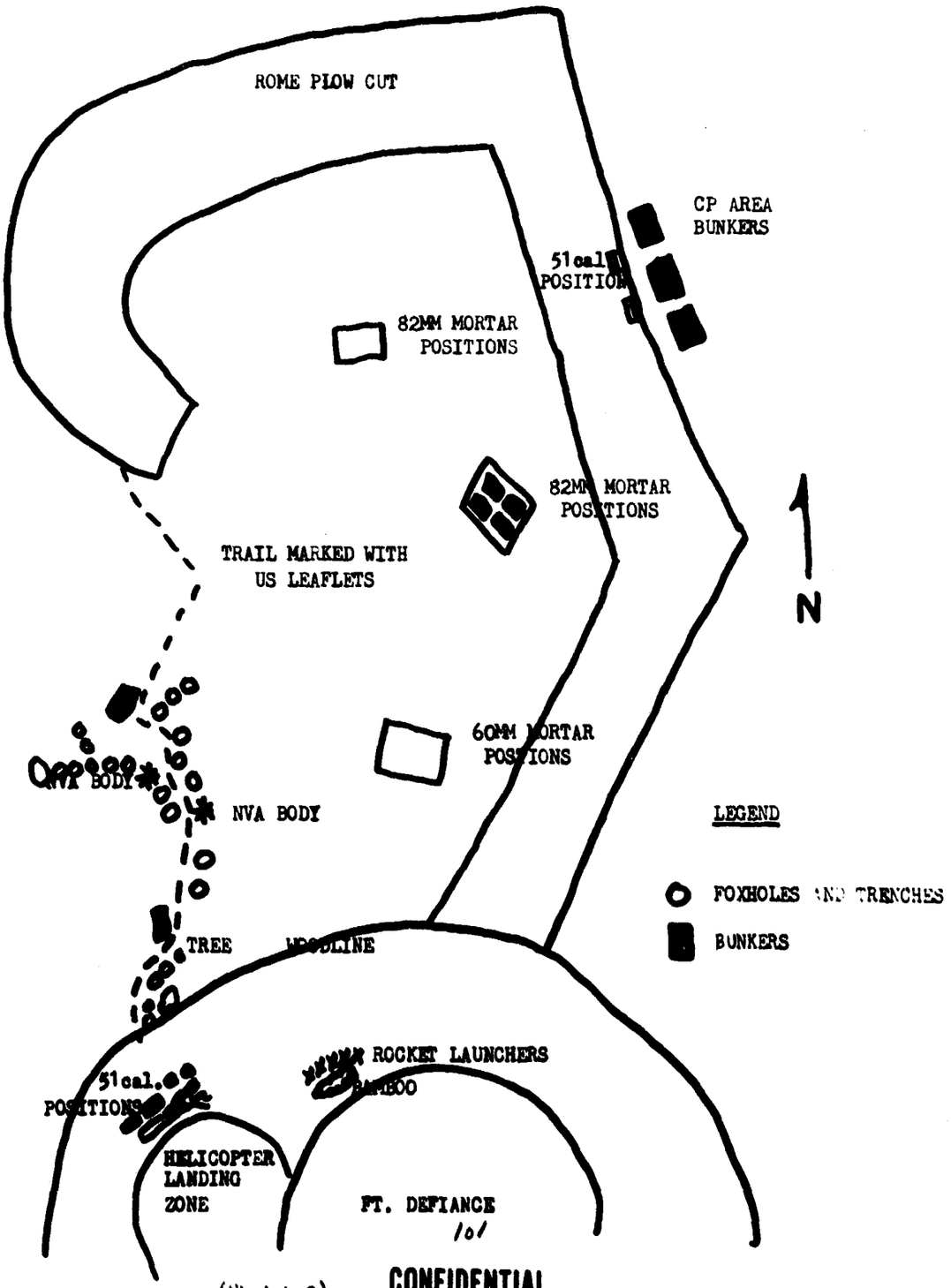
As has been done so many times in the past, US units reacted to enemy locations by a helicopter combat assault. The ineffective attack by fire was strictly an attempt to draw a helicopter assault into the most suitable landing zone in the area. The ambush was not successful because the enemy gunners first engaged the OH6A on a low level visual reconnaissance, rather than wait to engage lift helicopters. Friendly troops did enter the landing zone, but in armored vehicles rather than helicopters, which resulted in 27 NVA KIA.

XI. Stand Off Attacks--Fire Support Base Defiance (Sketch 2): The attack against FSB Defiance was a carefully planned operation designed to begin as a massive attack by fire to be followed by a sapper probe. The fire support units of the enemy task force consisted of the Z22 artillery battalion of the 7th Division and the C16 Mortar and C18 Anti-Aircraft Companies of the 165th Regiment. The ground elements consisted of the Z-6 battalion and C19 and C25 sapper companies of the 165th Regiment.

The automatic weapon and main gun fire of 2nd Squadron preempted the sapper probe but the NVA were able to launch a massive artillery attack. An estimated 100 rounds of 60mm, 82mm, and 120mm mortars and 107mm and 122mm rockets hit the base between 0002 and 0015 hours on 9 April. An additional 50 mixed rounds of rockets and mortars were intermittently impacting both inside and outside the base from 0802-1120 hours, as the enemy force withdrew to the north.

The sweep of the area around Hill 95 revealed a sophisticated use of tactics and terrain. The CP and .51 caliber positions were located in the Rome Plow cut to the north-northwest of the FSB; commo wire led from the forward mortar positions to the CP indicating close command coordination of the entire operation. Additional .51 caliber positions were located near the helicopter landing pad designed to shoot down medevac helicopters. This was the apparent function of the C18 Anti-Aircraft Company. The identification of the 50th Rear Service Group indicated that stops had been taken to evacuate the dead and the wounded as well (Sketch 2).

SKETCH OF ENEMY DISPOSITIONS FOR PREPLANNED ATTACK ON FSB FT. DEFIANCE



(Sketch 2)

III. Enemy Anti-vehicular Mine Warfare Experience: Three significant developments characterized enemy mining activities from November 1969 to April 1970. First, enemy mining of key LOC's paralleled their use by 11th ACR armored units. Extensive mining of QL 13 from An Loc to Loc Ninh occured after 4 November when 11th Cavalry units moved into the area in an operation designed to open the road north of Loc Ninh. Extensive mining of QL 14A occured from November to January when a task force of the 11th ACR moved to secure the Bo Duc area from 7th Division encroachment. Small local force or main force engineering units will place the mines on the road during night hours.

The NVA utilized mines to assist his other tactics. He constantly placed mines in front of his ambushes which were responsible for increased friendly casualties in such encounters. Recent finds in Binh Long Province display a third trend, the NVA are attempting to reduce the number of mines detected by encasing his mines in layers of plastic which may pose a major problem for armor units if extensive use of this begins and expands.

In War Zone C, NVA units moved the mines from Cambodia during the hours of darkness. His primary target was the Regiment's line of communication--highway 246. Other mining incidents occured on Rome Plow cuts and old tank busts.

Maps 5,6, and 7 indicate the high mine density areas of Binh Long, War Zone C, and Phuoc Long respectively. Charts 2,3, and 4 indicate the mining trend and percentage of success of mine sweep operations.

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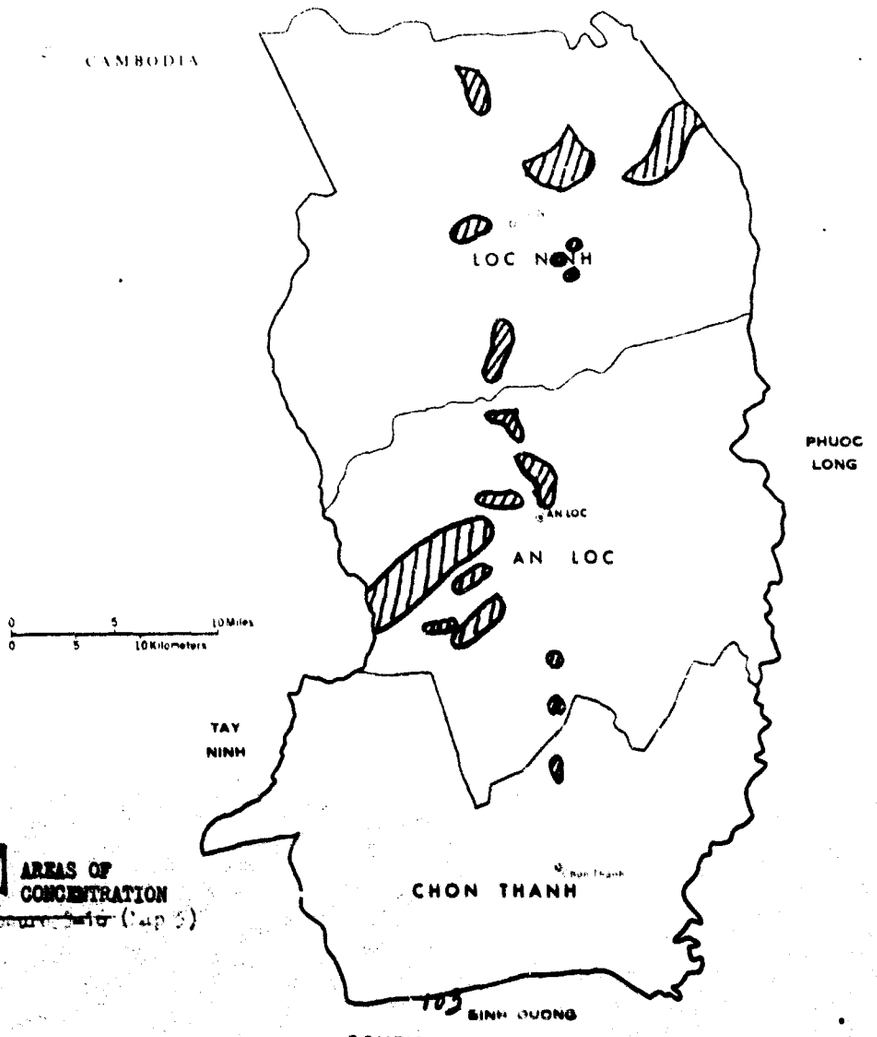
BINH LONG

11th ARMORED CAVALRY REGIMENT MINING EXPERIENCE (JUN 69 to MAY 70) PATTERN ANALYSIS, AREAS OF CONCENTRATIONS



Inclosure 1 to (Map 5)

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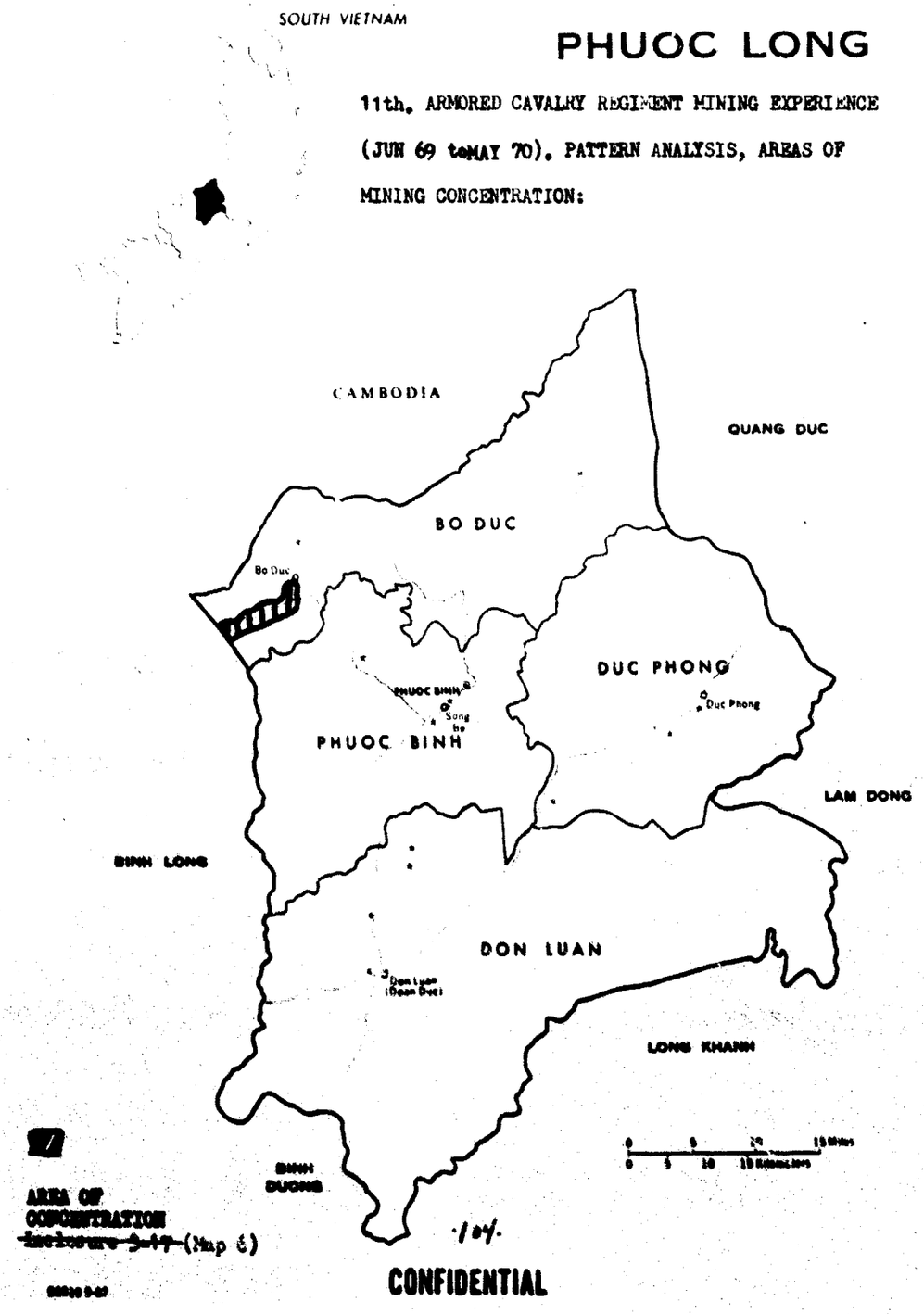

11th. ARMORED CAVALRY REGIMENT MINING EXPERIENCE (JUN 69 to MAY 70). PATTERN ANALYSIS, AREAS OF MINING CONCENTRATION:

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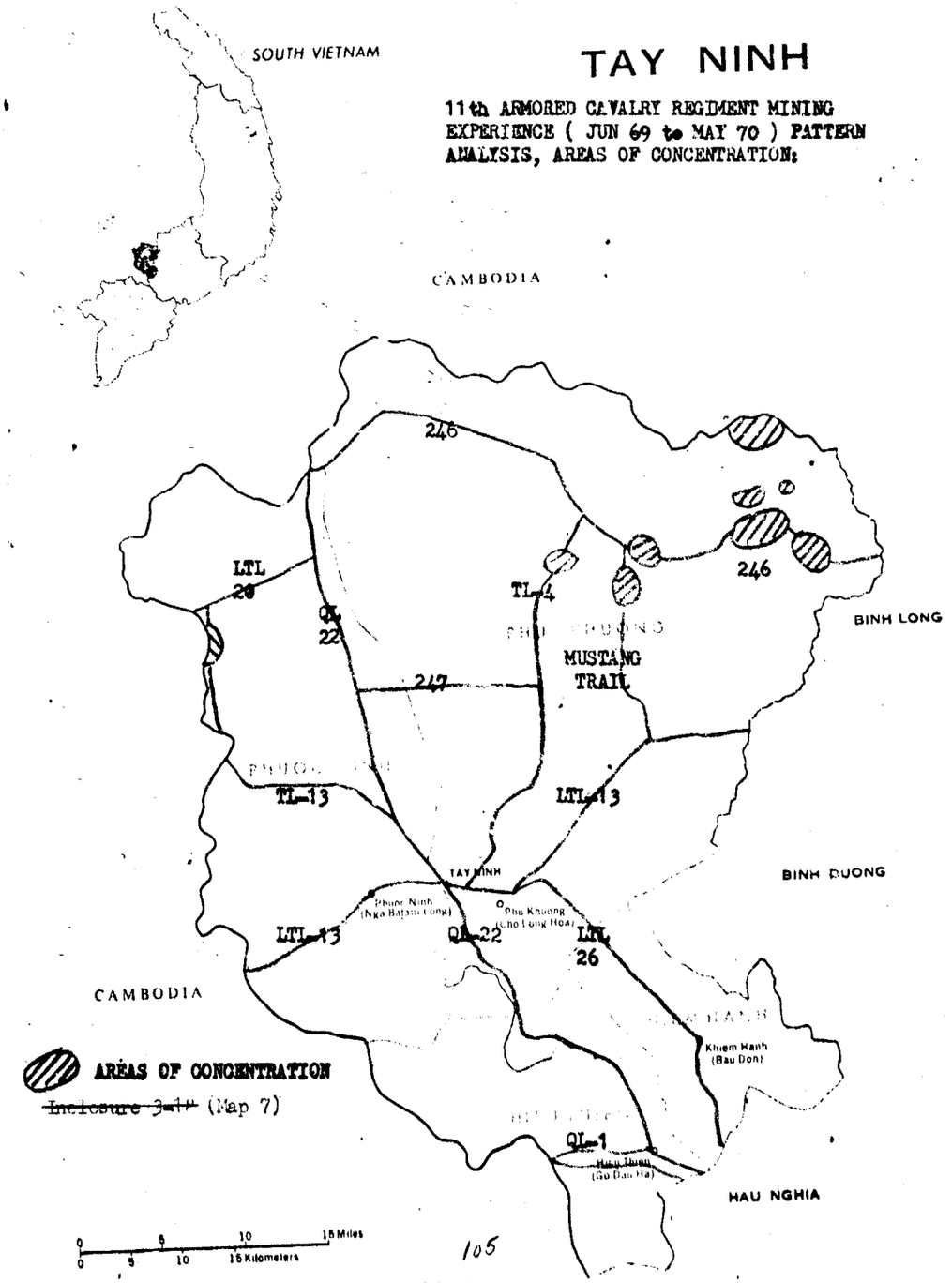
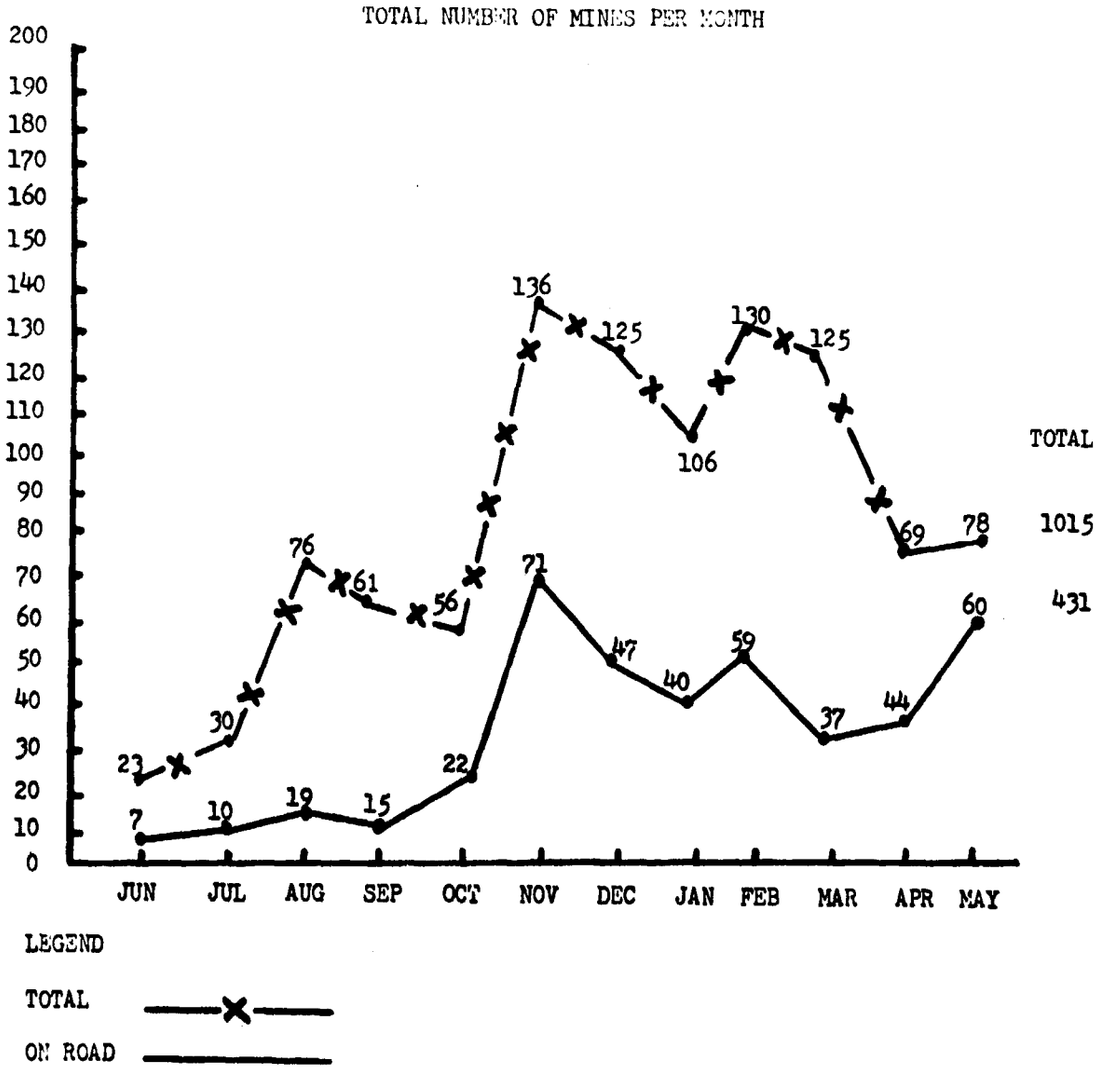

SOUTH VIETNAM
TAY NINH
11th ARMORED CAVALRY REGIMENT MINING EXPERIENCE (JUN 69 to MAY 70) PATTERN ANALYSIS, AREAS OF CONCENTRATION:
CAMBODIA
246
LTL 20
QL 22
TL-4
246
BINH LONG
MUSTANG TRAIL
247
TL-13
LTL-13
TAY NINH
BINH DUONG
Phuoc Ninh (Nga Ba Ba Cong)
Phu Khuong (Cho Long Hoa)
LTL-13
QL-22
LTL 26
CAMBODIA
Khiem Hanh (Bau Don)
QL-1
Hau Thanh (Go Dau Ha)
HAU NGHIA
AREAS OF CONCENTRATION
~~Inclosure 3~~ (Map 7)
0 5 10 15 Miles
0 5 10 15 Kilometers

11th ARMORED CAVALRY REGIMENT MINING EXPERIENCE (JUN 69 to MAY 70).

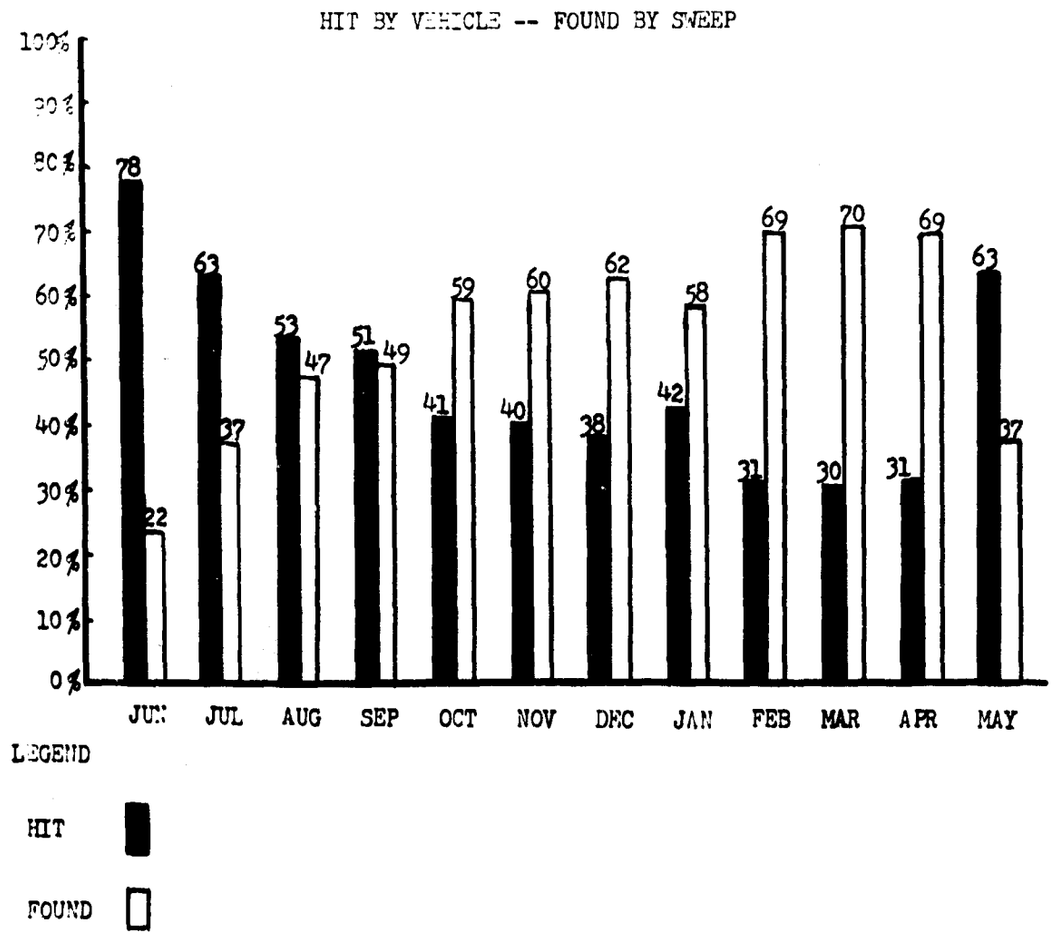
ENEMY MINING EXPERIENCE: DEPICTED ON CHART BY FRIENDLY EXPERIENCE BY MONTH.



(Chart 2)

11th ARMORED CAVALRY REGIMENT MINING EXPERIENCE (JUNE 69 to MAY 70).

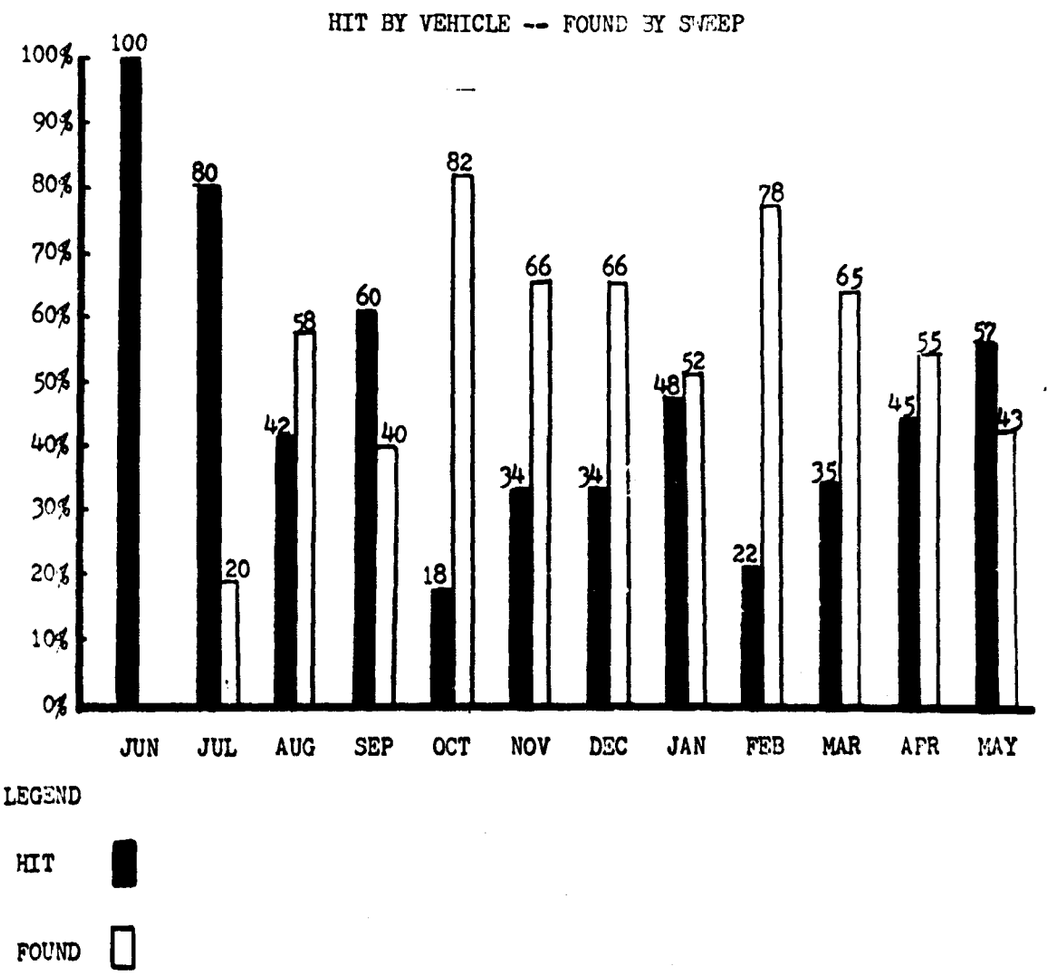
PERCENT HIT/FOUND



(Chart 3)

11th ARMORED CAVALRY REGIMENT MINING EXPERIENCE (JUN 69 to MAY 70).

PERCENTAGE HIT/FOUND "ON ROAD" EXPERIENCE



(Chart 4)

Civic Action and Psychological Operations
11th Armored Cavalry Regiment

1. Introduction.

From 7 December 1969 to 7 June 1970, the 11th Armored Cavalry Regiment conducted extensive Civic Action and PSYOPs activities separated primarily into three phases. Pacification of Binh Long Province, operations in War Zone C, and the Cambodian Offensive.

2. Pacification of Binh Long Province.

a. The Regiment was responsible for monitoring and assisting in the GVN Pacification Program in Binh Long Province until 18 February 1970 when the Regiment's combat forces moved into War Zone C. Unofficially the Regiment continued to assist the pacification effort in Binh Long Province. Binh Long Province encompasses 2,520 square kilometers and is divided into three districts. Loc Ninh, An Loc and Chon Thanh. Binh Long's population currently stands at 66,166 with approximately one fifth of these being Monkhmer speaking Stieng Montagnards. Another fifteen per cent of the population are Cambodian, Cham, Chinese, and a few Ta Mung Montagnards with the rest of the population being Vietnamese. These people live in 104 different hamlets which are separated primarily into ethnic Vietnamese and Montgnard hamlets. The 11th ACR assumed responsibility for the pacification effort on 6 June 1969. At that time, with a total population of 67,140, Binh Long Province had over 20,000 people living in hamlets with a security status of D or E. By the end of November the entire population was living in hamlets with a security status of C or better. The change of the population status is shown in chart A.

BINH LONG PROVINCE POPULATION SECURITY STATUS

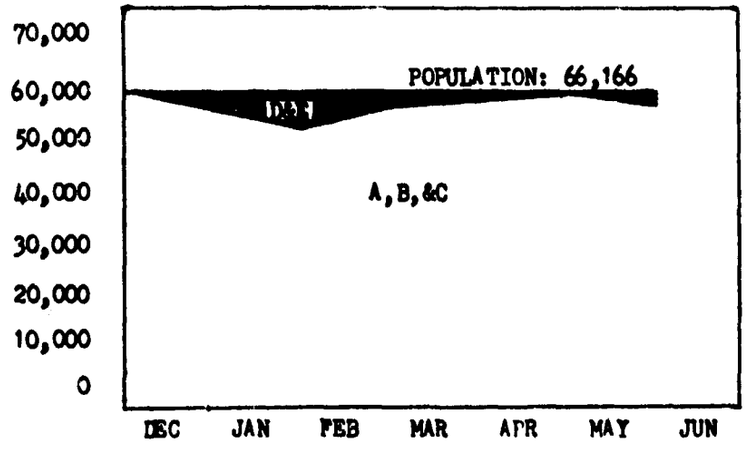


CHART "A"

AS OF 7 JUN 70, 97% OF POPULATION LIVING IN A,B&C HAMLETS

In December 1969, the method of determining the HES rating (Hamlet Evaluation System) was changed to include a developement rating as well as a security rating. These two ratings are derived from a point system and averaged to get an overall hamlet rating. Resultantly, hamlets which in the past had primarily emphasized security showed a drop in the December and January HES ratings. By the end of February, however, an upward trend was evident as is shown on chart B.

BINH LONG HAMLET SECURITY RATINGS

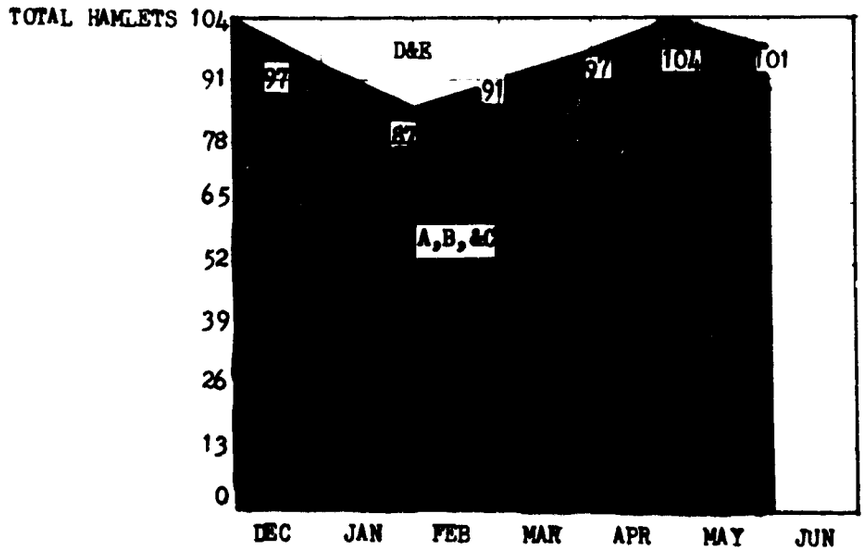


CHART "B"

To assist in the pacification of Binh Long Province all available Regimental resources were utilized with the primary effort being in the areas of Civic Action and PSYOPs. The Civic Action projects consisted of MEDCAPs/ICAPs (Medical Civic Action Projects/Integrated Civic Action Projects) and various construction and construction assistance projects which were conducted by the Regimental Headquarters, Squadrons, and the 919th Engineer Company. From 7 December 1969 till 30 March 1970 the Regiment conducted 198 MEDCAPs/ICAPs and treated 12,672 Vietnamese and montagnard civilians in Binh Long Province. These figures are shown on chart C.

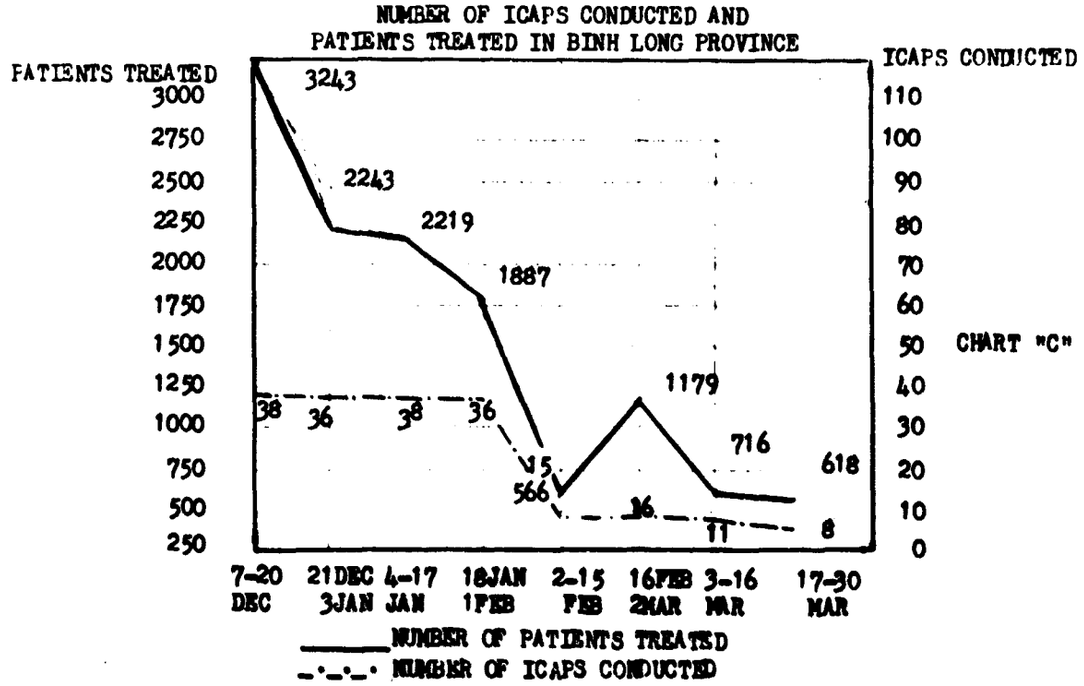


CHART "C"

On 30 March 1970, the Regimental MEDCAP in Binh Long Province was halted at the request of the An Loc District Senior Advisors, in order to prod the Province officials into correcting an in-house medical supply problem and initiating more GVN participation in the organization and conduct of the MEDCAPs. Through the efforts of the 919th Engineer Company the entire network of roads in An Loc District have been repaired and all the bridges and culverts in the district have been repaired and rebuilt. Other construction projects include the provision of lumber to many of the small Montagnard hamlets to rebuild their homes through the self-help program. The number of 10 hour man-days expended on the pacification effort in Binh Long Province from 7 December 1969 to 7 June 1970, are shown on chart D.

NUMBER OF TEN HOUR MAN DAYS EXPENDED ON CIVIC ACTION IN BINH LONG PROVINCE

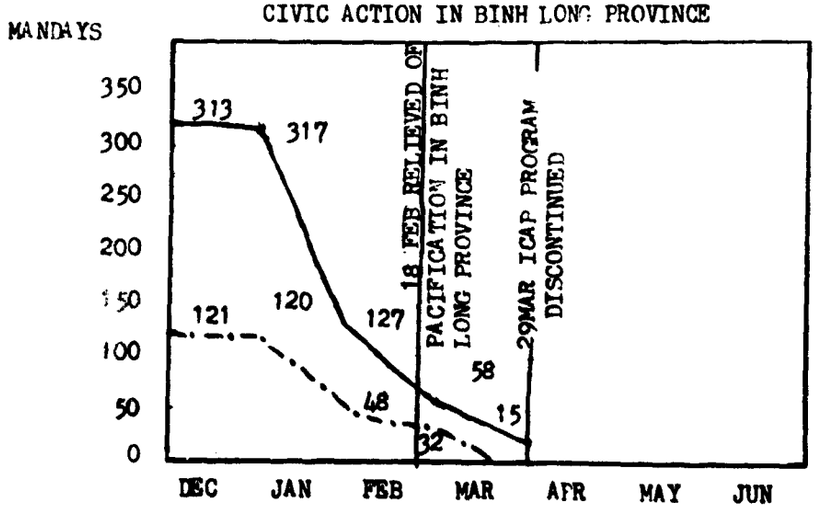


CHART "D"

_____NUMBER OF MAN DAYS EXPENDED ON OTHER CIVIC ACTION

_·_·_·_·_NUMBER OF MANDAYS EXPENDED ON MEDCAPS

The amount of commodities and materials dispensed during the reported period are as follows; cement, 550 lbs; sheets of tin, 75; lumber, 3,000 bd ft; food, 850lbs; health items, 150 lbs; clothing, 200 lbs; other (sand), 4000 lbs.

b. PSYOPs activities in Binh Long Province have been primarily of the Voluntary Informat, GVN Enhancement, or Chieu Hoi themes. Great emphasis was placed on the reporting of mine locations due to the number of mining incidents experienced on QL 13 between An Loc and Loc Ninh. Results have been excellent, with numerous civilians reporting the location of weapons and mines. As a partial result of this PSYOP effort and response the mining incidents decreased measurably and one member of the QL 13 VC mine team rallied. The total number of Hoi Chanhs for Binh Long Province during this period are shown in chart E.

HOI CHANHS IN BINH LONG PROVINCE

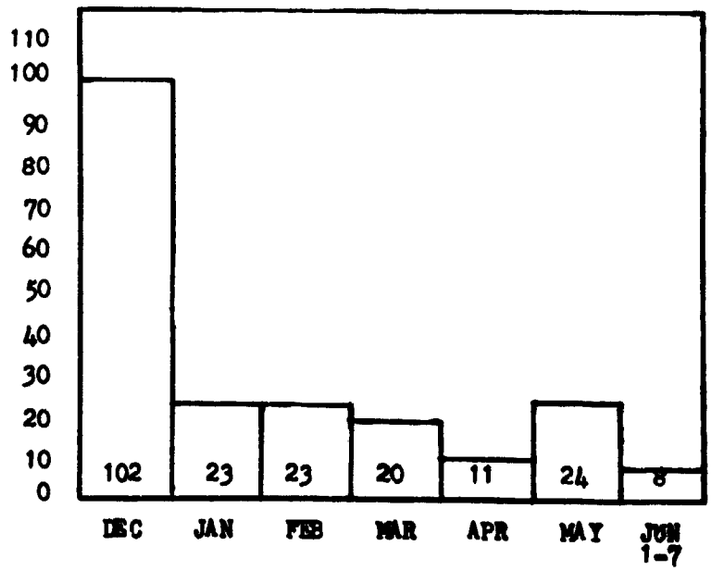


CHART "E"

The Regiment assisted the Binh Long Province officials, with civic action on numerous occasions. In the early weeks of December 69, work was completed on the day-room facility at the Province hospital in An Loc. The Regiment had assisted by providing monetary assistance, in the form of 45,233 $VN to buy supplies for this project. Along with this the Third Squadron, 11th Cavalry conducted joint ICAPs in the An Loc District. This program produced five (5) well trained RF/PF medics, who returned to their units to train other personnel. Prior to the Tet holidays, provincial officials requested assistance, to give the children of the province a happy Tet. The Blackhorse responded by giving the dependants of the 9th ARVN, stationed in An Loc, a party, handing out bags of cookies and assorted candy to each dependent child. Additionally the S-5 representative from the CIDG assigned at B633 Special Forces compound, requested commodities, however the Regiment could only provide 6,000$VN to buy small gifts for the children of the CIDG, at Tonle Cham, and Minh Thanh Special Forces camps. In preparation for the Southwest Monsoon season the Province Chief of Binh Long Province requested assistance in the form of materials. The 11th ACR responded by providing used tank tracks to be utilized for sidewalks in the schools and playgrounds, and 55 gal drums to restore old fortifications and build new ones.

3. War Zone C. On 18 February 1970, the Regiment initiated Operation Fresh Start, a combined Rome Plow and armor operation designed to interdict enemy supply routes and clear the enemy forces from War Zone C. Being completely devoid of civilian populace, the Regiment conducted only PSYOP missions in War Zone C. The PSYOPs efforts included 72 aerial broadcast operations and 34 million leaflets disseminated against the 9th VC Division, the 165th and 141st Regiments of the 7th NVA and 101st separate Regiment and the 50th Rear Service Group. It must be realized that this particular enemy is a hard core member of the NVA, who refuses to surrender even in the face of defeat. To induce this soldier to rally to the GVN is difficult. These soldiers were attacked initially by the use of Chieu Hoi themes, and later by the divisive theme. The latter proved effective in producing one (1) rallier from the 101st Regiment, a unit which suffered from both food and personnel shortages.

4. Cambodian Offensive. On 1 May the Cambodian Offensive jumped off with the full use of PSYOPs at every possible opportunity. Initially, the Regiment made an armored thrust into the infamous FISH HOOK area of Cambodia. This area was considered to have no friendly populace within it and therefore the Regiment's activities were restricted to PSYOPs directed against the NVA and COSVN. Themes used were primarily of the Chieu Hoi nature and informing the enemy that his sanctuaries were no longer sacred and his cause was lost. This produced 3 ralliers and 3 surrenderees within the first two days. After interrogation of the ralliers and the surrenderees it was discovered that the NVA in Cambodia were suffering from lack of food, medicine, and supplies. Subsequently the PSYOP messages were changed to exploit this weakness and resulted in 3 more ralliers and 8 surrenderees for the Regiment. On 4 May the Regiment was ordered to move north to Snuol and block the main road junction of Rts 7 and 13. This movement and subsequent action placed the Regiment in contact for the first time with the friendly citizens of Cambodia. As a result the additional functions of medical aid and population control were assumed by the Regiment. Assigned to assist was a team from the 2d Civil Affairs Company of II Field Force Vietnam. On 6-7 May, the 11th ACR ran speaker missions in the vicinity of Snuol urging the people to return to their villages and directing those with injuries to report to the MEDCAP teams for treatment. In all, over 250 people were treated in the Snuol area alone and a total of 700 civilians have been provided medical assistance since the Regiment moved to Cambodia. The Regiment has also been involved in the evacuation of refugees from Cambodia. Over 100 ethnic Vietnamese contacted the Regiment and requested assistance in returning to Vietnam. This was accomplished by providing aircraft to move these people and their possessions to the refugee center at An Loc, Binh Long Province. The Regiment also secured the main highway from Snuol to Vietnam allowing another 2000 refugees to travel to Vietnam. The Regiment has continued assisting these and other refugees by distributing all captured rice and other foodstuffs to the various refugee centers in Binh Long Province.

OPERATIONAL SUMMARY

Dec 69 - June 70

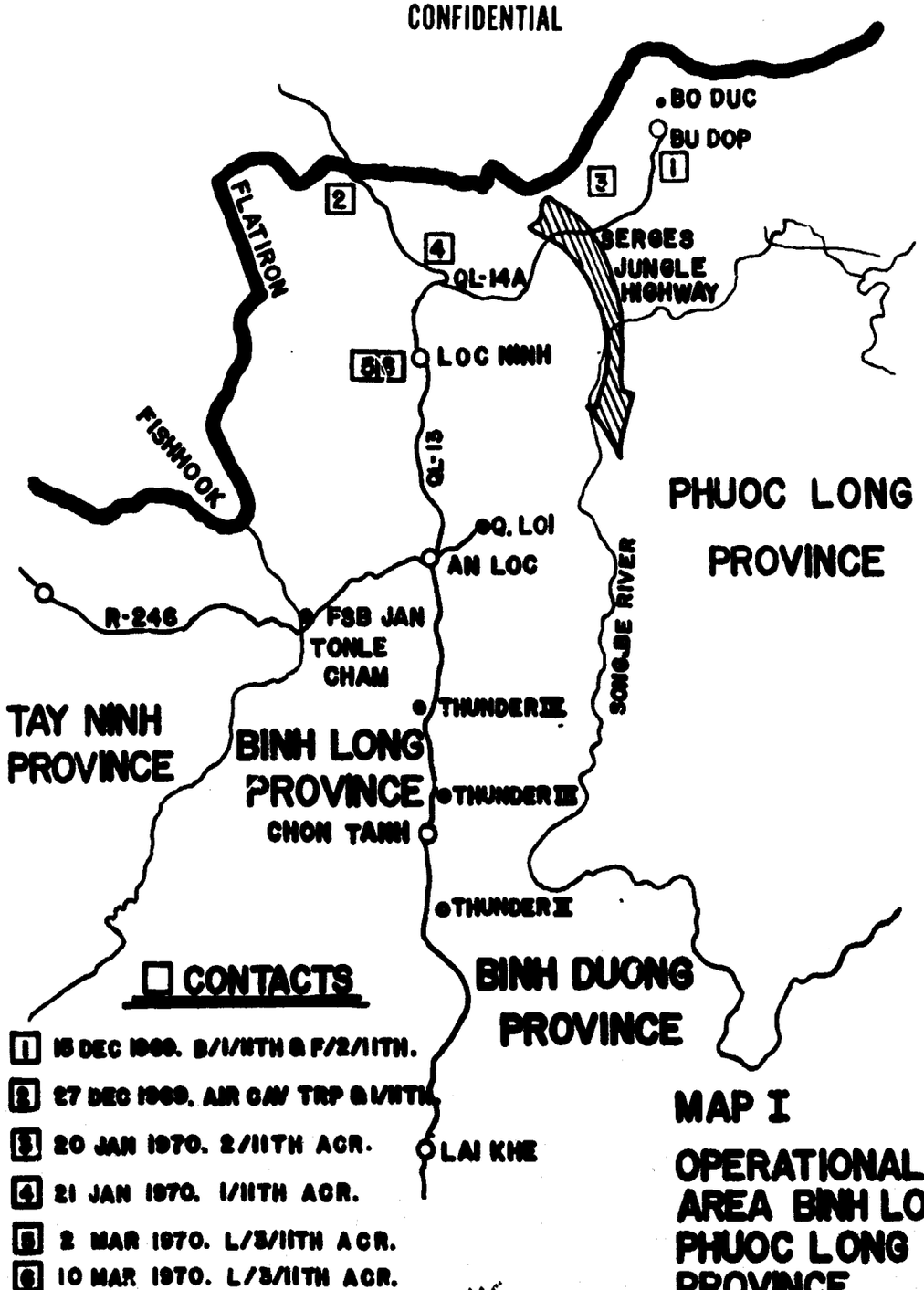
1. Operations in Binh Long-Phuoc Long Province: Dec 69 to Feb 70 (Map 1)

December 1969 found the squadrons of the Regiment operating in Binh Long Province, with 1/11 located in the Loc Ninh area, 2/11 along the Bu Dop Road (14A) northwest of Loc Ninh, and 3/11 at FSB Jan on the Tay Ninh-Binh Long border. Besides providing area security, the Regiment had the mission of relieving enemy pressure on Allied forces in the Bu Dop area and of interdicting enemy lines of communication from Cambodia into Binh Long and Phuoc Long Provinces. One of the enemy's primary infiltration routes into the area is a maze of trails known as the "Serges Jungle Highway" which crosses the border southwest of Bu Dop and moves south to the Song Be River Corridor. The key to interdicting this system is control of Route 14A which runs from the road's junction with QL 13, north of Loc Ninh, in a northeasterly direction to Bu Dop and cuts across the "Serges Jungle Highway". QL 14A has always been fiercely defended by the enemy and had not been open for more than two years. Securing this route would not only curtail the flow of men and material but also would provide a corridor for Allied rapid reinforcement of Bu Dop. The road had been mined heavily over the past two years. Another major problem in clearing this route was dense jungle that closely flanked the road, providing the enemy with unlimited ambush sites. This situation was further complicated by soft ground off both shoulders of the road in many areas which channelized traffic and facilitated ambush.

After a previous attempt to clear 14A resulted in the loss of eight armored vehicles to mines on the operation's first day, the CG, 1st Cav Div (AM) decided that future attempts would be conducted with land clearing operation along both sides of the road. The 984th Land Clearing Company(LCC) was placed in direct support of the Regiment.

The operation to clear along Route 14A called "Long Reach II" commenced on 3 December 1969. The 2/11 had the primary mission of securing the Rome Plows and conducting RIF operations in the area. Engineer elements reinforced with ACAV's led the column, clearing mines and obstacles encountered. Operating on either flank of the road, the Rome Plows were secured by ACAV's as they chewed out 200 meters of jungle from each side of the road. In addition to the ACAV's, an infantry company, OPCON to the 2/11 from the 1st Cav Div (AM), provided close-in security for the Plows. Flame throwers followed the Plows, burning the debris. A platoon from the 919th Engr Co. moved with the sweep teams repairing bridges and culverts along the road to allow passage of armored vehicles and Plows.

Meanwhile the other elements of the squadron mounted daily recon-in-force operations to interdict enemy supply activities along the "Serges Jungle Highway". Enemy resistance to 2d Squadron operations was light. Although the route itself was heavily mined, direct enemy contact was rare, and December passed without a significant incident of enemy initiated activity.



MAP I

OPERATIONAL AREA BINH LONG PHUOC LONG PROVINCE

While 2d Squadron chopped its way to Bu Dop, 3d Squadron continued its mission of conducting RIF operations along the eastern end of War Zone C and securing the southern portion of the Regimental AO. As part of this latter mission, 3d Squadron was tasked to clear Highway QL 13 daily with a mine sweep between Chon Thanh and Quan Loi, escorting a daily logistic convoy north to Quan Loi in the morning, returning it south in the afternoon. In addition 3d Squadron was responsible for night security of two artillery fire bases along Route 13. These additional duties required the daily committment of one troop, and materially affected the capabilities of the squadron for other operations. Although the 3d Squadron conducted daily recon-in-force operations there was no significant contact during the remainder of Long Reach II.

1st Squadron was established in the Loc Ninh area in position to reinforce 2d Squadron to the northeast or 3d Squadron to the southwest. The 1st Squadron conducted reconnaissance-in-force operations to the north and west of Loc Ninh interdicting enemy trail network and protecting the rear of the 2d Squadron. The 1st Squadron also suffered from fragmentation of assets. At one period during December and January two troops of the squadron were OPCON to the 3d Bde, 1st Cav Div (AM), leaving one troop and tank company for operations in northern Binh Long.

The first significant contact of the period occurred on 15 December when Task Force Bradin (consisting of B 1/11 and F 2/11 - OPCON to the 3d Bde, 1st Cav Div (AM)) killed 65 and captured 2 of the enemy in a meeting 3 kilometers southeast of Bo Duc. Intelligence confirmed this action had pre-empted a battalion size assault by the 141st NVA Regiment in the Bo Duc/Bu Dop area.

On the morning of 27 December an Air Cavalry Troop LOH was fired on near the Cambodian border 10 kilometers north of Loc Ninh. The gunship accompanying the LOH discovered what later proved to be a major NVA Base Camp south of the Cambodian border in what the enemy must have believed to be a "safe area". Within minutes ARA, TAC AIR, and gunships were rolling in on the target. As the battle progressed, more enemy were sighted in several groups, covering an area about 3 kilometers square. The 1st Squadron reacted with its whole force - one cavalry troop, tank company, and an RF company. While busting heavy jungle moving toward the area, the cavalry and the RF were briefed on the mission. B Troop secured two tubes of 155mm howitzers from the squadron's organic Howitzer Battery and moved north to support the action. While 1st Squadron was moving in from the south, air elements continued to pound the enemy. By early afternoon the squadron had reached the scene and destroyed the enemy base camp. The rapid and effective response of both the Air Cavalry Troop and 1st Squadron resulted in over 76 NVA KIA while friendly losses were 2 KIA and 5 wounded.

2d Squadron's home llow operations continued through early January with little resistance. By mid January, however, the enemy reacted to the interdiction of his logistical network. On the morning of 20 January, the 2d Squadron's CP, at Fire Support Base Ruth, southwest of Bo Duc, was the target of over 100 rounds of enemy mortar fire. While attempting to locate

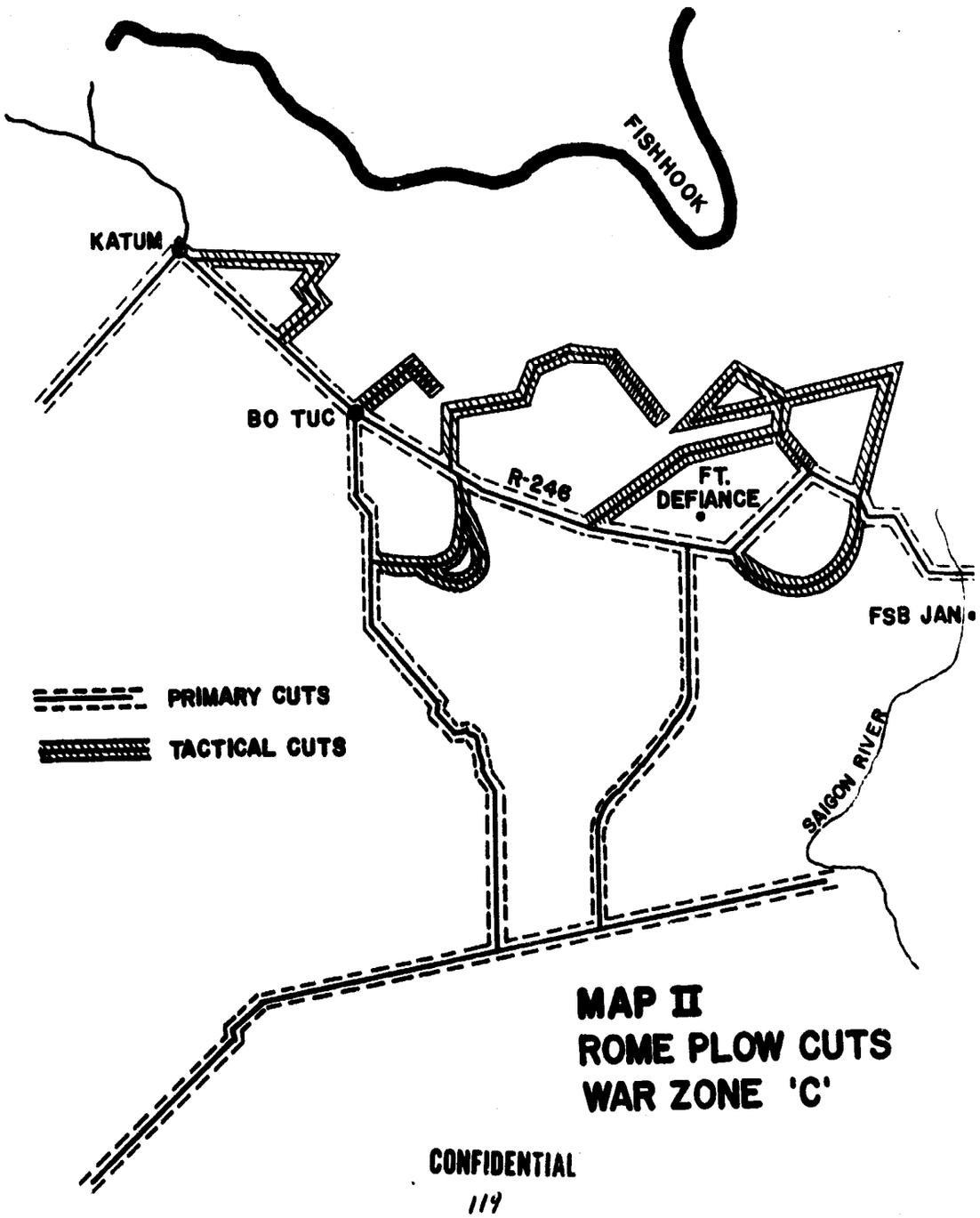
the mortar position, a LOH from the Air Cavalry Troop was shot down in an area 5 kilometers west southwest of Bo Duc. As TAC AIR, artillery, ARA, and gunships pounded the target, 2d Squadron repositioned forces and launched an attack destroying the enemy position. Troop dispositions and weapons employed indicated the enemy had set up to ambush an airmobile force and had not expected the ground assault of the 2d Squadron.

The following day, two troops of 1st Squadron attacked an attempted ambush prepared by two reinforced companies of the 141st NVA Regiment north of the junction of QL 13 and 14A, near Loc Ninh. 1st Squadron had two manuever elements under its operational control and no organic reinforcing capability. Two troops from the 2d Squadron were ordered from the Bu Dop area to reinforce the 1st Squadron, and tank company and a cavalry troop from 3d Squadron started moving north from near An Loc. By late afternoon the enemy fled to the north leaving 41 dead and a quantity of equipment behind.

As January ended the Regiment scaled down operations in Binh Long and began to move into War Zone C. On 29 January, 1st Squadron moved to western Tay Ninh Province under operational control of 1st Bde, 1st Cav Div (AM). Enroute the 1st Squadron was joined by M Company, 3/11, which replaced D Company which had been OPCON the 199th Light Infantry Brigade since early January. With 1st Squadron departing, 2d Squadron moved to Loc Ninh to continue recon-in-force operations in central and northern Binh Long Province. 3d Squadron continued operations around FSB Jan with periodic reconnaissance operations into eastern War Zone C.

2. Operations in War Zone C: February to April 1970 (Map II).

Operation "Fresh Start" marked the beginning of the second phase of the period. The objective was interdiction of enemy north-south supply routes through War Zone C. The concept called for clearing Route 246, which runs east and west across the Zone and blocking a series of north-south trails that run from the Fishook area of Cambodia to the Saigon River Corridor. Part of this network is known as the Mustang Trail. Two Land Clearing Companies were used. 1st Squadron, working in the central portion of War Zone C with the 501st LCC, moved from west to east. 2d Squadron with the 84th LCC started cutting at the edge of the An Loc rubber and moved east along Highway 246 to link up with 1st Squadron. The 1st Squadron, operating OPCON the 1st Bde, 1st Cav Div (AM) since the end of January, returned to Regimental control on 18 February. After initial cuts east along Route 246, 1st Squadron turned south and cut along the trace of the "Mustang Trail". 2d Squadron moved from Loc Ninh on 15 February and started cutting west along 246 toward 1st Squadron. Meanwhile 3d Squadron replaced 2d Squadron in Loc Ninh and was OPCON the 3d Bde, 1st Cav Div (AM). With the beginning of Operation Fresh Start the Regiment turned over responsibility for pacification progress and support in Binh Long Province to the 1st Cav Div and the 9th ARVN Regiment. While the Rome Plows cut along their assigned routes, remaining troops of 1st and 2d Squadrons conducted detailed reconnaissance in force operations. There were no large contacts during February; however, a large number of small actions cost the enemy over



MAP II
ROME PLOW CUTS
WAR ZONE 'C'

100 KIA. During late February the Regiment expanded Rome Plow operations to plow out extensive bunker complexes and trail networks along both Route 246 and the "Mustang Trail". Tactical cuts were made from the main cuts along the heavily used trails and through base camps. In conjunction with tactical cuts, the Regiment began to set up extensive automatic ambush systems along the enemy trail network. These ambush devices were particularly effective and accounted for over 100 KIA in slightly more than a month.

In early March the enemy moved into the Loc Ninh area of Binh Long Province. On 2 March, L Troop, 3d Squadron engaged an estimated NVA company in a sharp contact 6 kilometers west of Loc Ninh.(See Map I) The enemy had been preparing an ambush when the sudden appearance of the 3d Squadron troopers forced them into a fight. L Troop's losses were light, and the enemy fled to the north leaving 26 KIA behind. In a second battle in the same area on 10 March, L Troop killed 47 of the enemy and took 6 NVA prisoners. The unit was identified as the K-7 Battalion, 209th Regiment of the 7th NVA Division. POW's taken in the action revealed that their unit had moved to Binh Long Province with the mission of conducting ambush operations against units of the Regiment around Loc Ninh.

On 15 March 3d Squadron moved to Lai Khe, came under "tactical direction" of the 5th ARVN Division, and operated in that area until late April. 1st and 2d Squadrons continued to interdict the enemy's lines of supply in War Zone C. Contacts with small enemy forces-usually rear service group troops-were frequent. The number of kills from automatic ambushes rose sharply as the enemy continued to try to supply his units to the south.

In late March, 1st Squadron was pulled from the Regiment and ordered to Tay Ninh under OPCON the 1st Bde. This left the Regiment with one squadron in War Zone C. At the time of departure, 1st Squadron had been in almost daily contact with the 95C Regiment, 9th VC Division. Intelligence indicated the NVA had been attempting to set up routes through the cavalry screen. Since no major adjustment was initially made in the size of the Regimental AO, 2d Squadron was left with the task of trying to secure the entire area with limited resources. On 4 April, 2d Squadron completed the Rome Plow operations.

On 9 April the enemy launched a massive mortar and rocket attack on Fort Defiance in what appeared to be an attempt to neutralize the 2d Squadron CP and re-open vital routes of supply. In an addition to a heavy volume of .51 cal. and RPG fire, more than 90 mortar rounds impacted in or near the embattled position during the 10 minute attack. Fortunately the position had been well prepared. Vehicles and equipment were dug in, ammo and POL stored in revetments with overhead protection and troops had covered positions. In addition, medical teams and damage control parties had been organized before the attack to speed location and evacuation of wounded and to control fires. As a result of these preparations the squadron suffered only 2 KIA's, 16 WIA's (mostly minor) and light material damage.

Although 2d Squadron continued to operate in eastern Tay Ninh Province

until the end of April, the attack on Fort Defiance was the last significant action of the period.

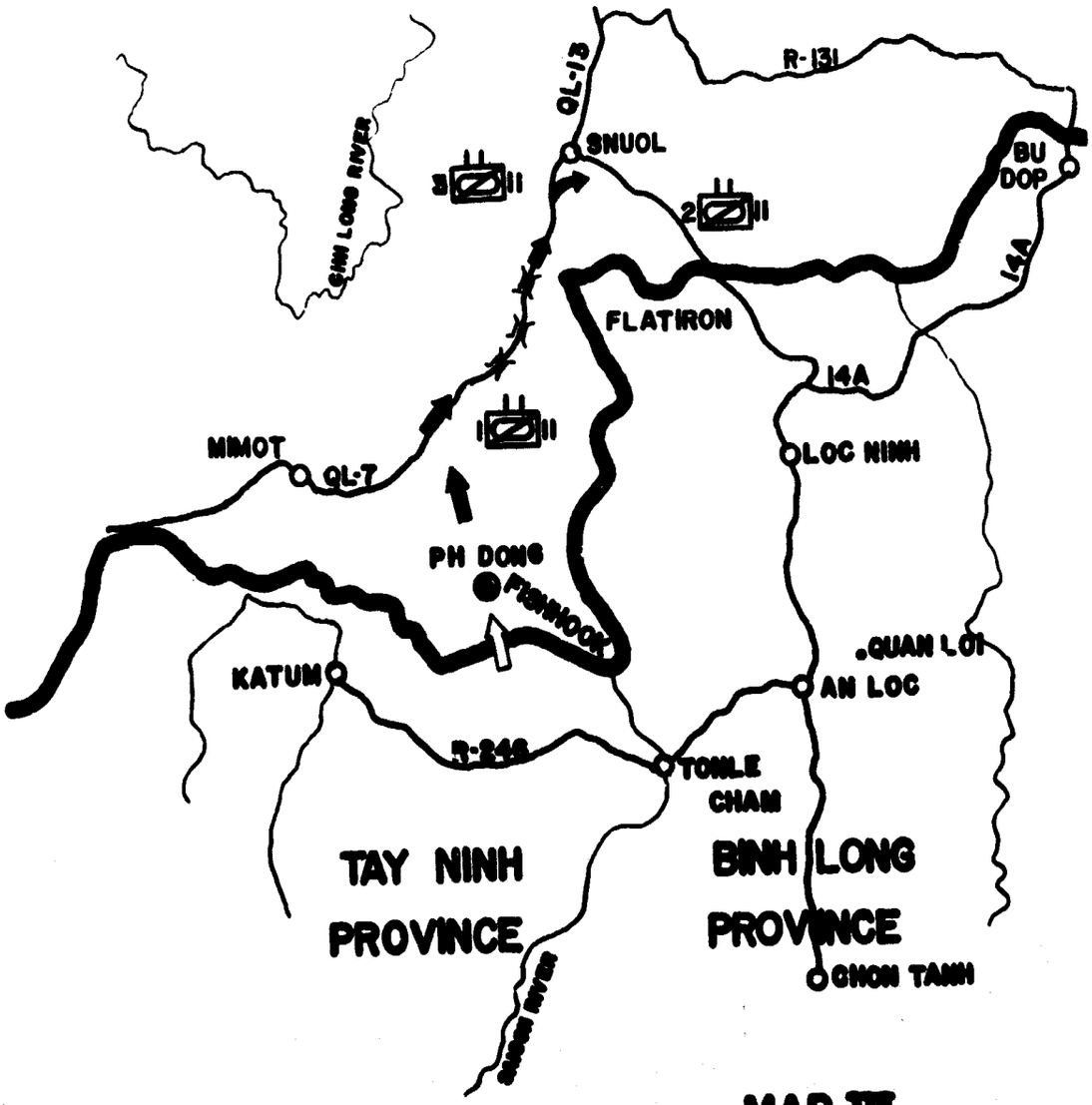
On 23 April, 3d Squadron was released from "tactical direction" of the 5th ARVN Division and placed OPCON to the 2d Bde, 1st Cav Div (AM) for a brief period. By the end of the month however, all three squadrons were again under Regimental control in preparation for the move into Cambodia.

3. Operations in the Kingdom of Cambodia: May to June 1970 (Map III).

On 27 April the Regiment was ordered to prepare plans for a possible attack into Cambodia. The concept of operation called for a limited thrust into the "Fishook" area in conjunction with an ARVN airmobile operation. The mission of the Regiment was to move north, link up with ARVN forces and conduct search operations south to the Vietnamese border. The target area had long been considered the heart of the enemy's logistic network for conduct of operations in III Corps. Whereas previous operations were directed against the enemy's supply lines, this operation was directed against the source of his supplies. By 30 April all three squadrons were under Regimental control; two were to be used during the initial attack. 1st Squadron was held in War Zone C to secure lines of supply and to continue operations against the enemy in the area.

On 1 May, following a massive B-52 preparation, 2d and 3d Squadrons attacked north. 2d Squadron, leading the attack, headed for the border. Near the border a delaying force fired several RPG's at the attacking column. Air and artillery were brought to bear and the Regiment crossed into Cambodia at 1026 hours. 2d Squadron was engaged by an estimated reinforced NVA company about 1000 meters north of the border. 3d Squadron deployed to the east and both squadrons continued the attack. The attack continued in the afternoon with 2d Squadron leading once more. Late in the afternoon 2d Squadron engaged an estimated enemy battalion in a bunker complex south of the link up point with the ARVN Airborne Brigade. The hour long battle cost the Squadron 2 US KIA's while the enemy left 52 dead in the contact area. On 2 May, 2d Squadron linked up with elements of the 3d ARVN Airborne Brigade and began conducting search operations in the area. Late afternoon 3 May, the Regiment was ordered to pass through the ARVN forces on 4 May, continue to attack north, link up with two US battalions, 1/12 Inf and 2/5 Inf. along Highway 7 in the Flat Iron area and continue the attack to secure Snuol. The mission was to be accomplished with 48 hours. The Regiment attacked north against light enemy resistance, bridged three unfordable streams, and arrived on the outskirts of Snuol on 5 May. The city itself was ringed with a large NVA force and numerous anti-aircraft positions. E Troop, received heavy fire as 2d Squadron moved around the city to the east. H Company reinforced, TAC AIR was brought in, and enemy resistance was broken as darkness fell. Sporadic fighting continued near Snuol for several days, but no significant contact was made.

On 9 May 1st Squadron was placed OPCON to 1st and subsequently to 3rd Bde,



MAP III
OPERATIONAL AREA–CAMBODIA

1st Cav Div (AM), and operated northeast of Limot. Later the squadron, in the same area, was OPCON 1st Bde, 25th Division as division areas of operation changed. From 9-20 May, the 2d and 3d Squadrons operated near Snuol, initially to the south and east of the city. QL 13 from Snuol to Loc Minh was the general line dividing squadron areas, with 2d Squadron operating northeast and 3d Squadron southwest of the road. 3d Squadron completed a search for cache sites along the border and shifted operations to the north and west of Snuol. The 2d Squadron, after interdicting Route 131, withdrew from the jungle and was tasked with convoy escort and security of the daily Regimental logistics convoy in sector and periodic 1st Cav Div convoys resupplying brigades operating north and east of Bu Dop.

A 21 May realignment of boundaries gave the Regiment responsibility for an area near the Flat Iron with 1/12 Cav (AM) OPCON to the Regiment. On 21 May, 1st Squadron rejoined the Regiment, leaving D Company OPCON to the 1st ARVN Airborne Division. Operating south of Snuol 1st Squadron took over the entire area between route 7 and the Flat Iron after return of D Company and departure of 1/12 Cav.

Early in June, squadron areas shifted again; 1st Squadron with the 60th Land Clearing Company began tactical Rome Plow cuts into the northern part of the 1st ARVN Airborne Division area. 3d Squadron moved south to keep QL 7 open and protect 1st Squadron's north flank. At the end of the reporting period, enemy contacts and mining incidents were on the increase in the area of the Rome Plow operations and along Highway 7 north of that area.

CONFIDENTIAL

HEADQUARTERS

U.S. ARMY VIETNAM

COMBAT LESSONS BULLETIN

NUMBER 3

20 FEB 1970

THE MECHANICAL AMBUSH (U)

(C) GENERAL (U)

II Field Force Vietnam units have developed and successfully employed a "Mechanical Ambush" concept which has significantly increased the effectiveness of ambush operations. The mechanical ambush is a simple arrangement of M18A1 claymore mines positioned along a trail or any likely area of enemy movement. The automatic or mechanical ambush as it is known in some units, uses a standard M18A1 claymore mine rigged either electrically or non-electrically to detonate by enemy activation of a trip wire. Increased coverage of known or suspected routes of enemy movement can be attained through use of the concept. The mechanical ambushes may also be used to protect the rear and flanks of a manned ambush position. Information in this Combat Lessons Bulletin was furnished by II FFORCE V.

(C) INSTRUCTIONS FOR SETTING THE AMBUSH (U)

1. Components:

a. M18A1 anti-personnel mine, claymore.

b. Electrical blasting cap M4. (This is an accessory of the M18A1 claymore, consisting of an M6 blasting cap attached to 100 feet of two conductor, rubber covered firing wire).

c. Dry cell battery. (One 14.4 BA4386/PRC25 battery is capable of detonating up to nine claymores connected in parallel provided the battery is fresh. Fewer mines may be fired with smaller batteries such as the 6v BA 200/V).

d. A "trigger" to complete the electrical circuit when the trip wire is keyed. (A spring type clothespin and the plastic handle from a C-ration spoon make a suitable trigger (See Figure 1).

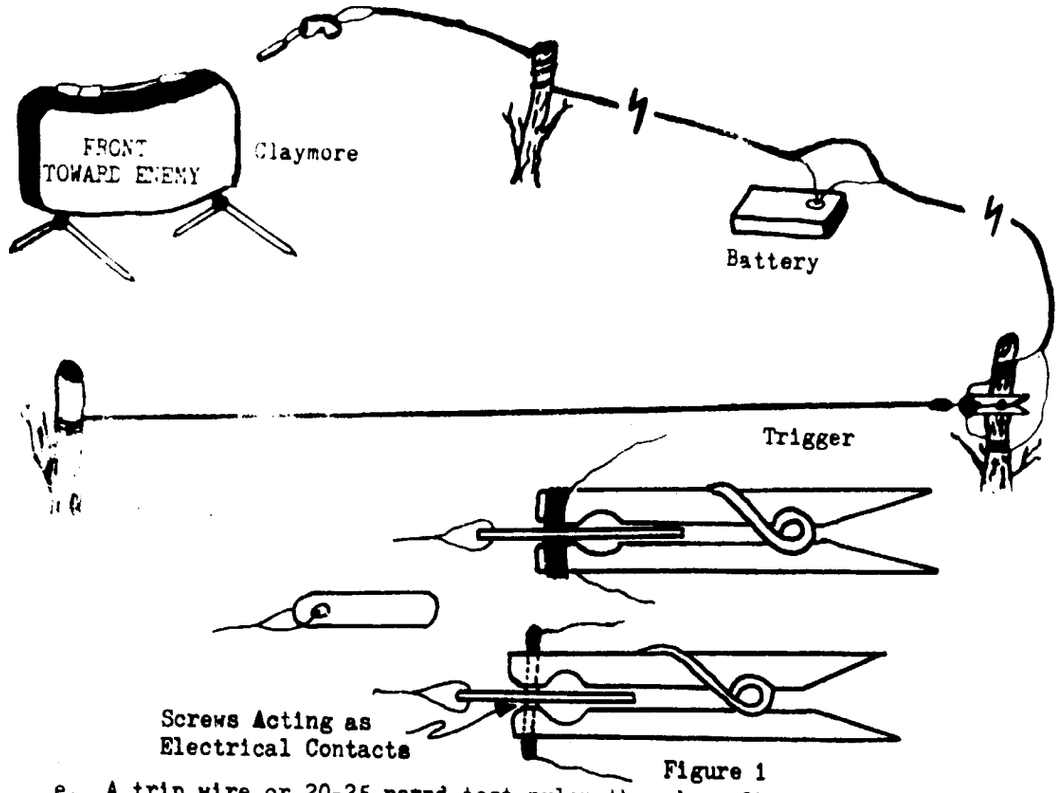


Figure 1

e. A trip wire or 20-25 pound test nylon thread or fish line.

2. Setting up the "automatic claymore".

a. Test the firing wire and the electric blasting cap with the M-57 firing device and M-40 test set.

(1) After determining that the firing device and test set are operating, remove the shorting plug dust cover from the connector of the firing wire and from the end of the test set. Plug the connector of the firing wire into the test set. Position the M-57 firing device bail to the FIRE position. Insure that no friendly personnel are near the blasting cap as it may detonate. DETAILED CIRCUIT TESTING IS CONDUCTED WITHOUT THE BLASTING CAP INSERTED INTO THE DETONATOR WELL.

(2) When the handle of the firing device is activated, a lamp in the window of the test set will flash indicating that the blasting cap circuitry is satisfactory. If there is no flash, replace the blasting cap and retest.

(3) Upon completion of the test, separate the two conductors at approximately the half way point in the firing wire, 50 feet from the blasting cap end . The battery will later be connected at this connection.

b. Cut the combination shorting plug and dust cover from the end opposite the blasting cap and separate the two conductors. Scrape the insulation from the wires and attach one wire to either side of the trigger (one to each jaw of the clothespin), insuring a good electrical connection when the jaws close. Attach the trigger to a sharpened stake and secure the firing wire to the stake so that accidental tugs will not disturb the trigger. Roll up the firing wire starting at the blasting cap end. The two wires at the trigger should be in contact or a shunt between the two should be made to protect the blasting cap from accidental detonation. The firing wire is now ready to move to the field.

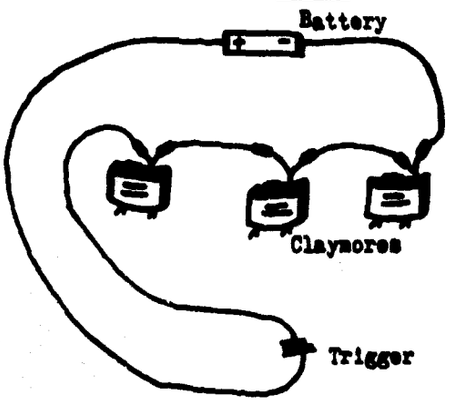
c. Position the claymore in accordance with para 12, FM 23-23, paying particular attention to aim and camouflage.

d. Place the trip wire across the trail at ankle height. The tied end of the trip wire should extend at least five meters off the trail. Position and set the trigger (remove the shunt if one was used). Place the desired tension on the trip wire.

e. Unroll the firing wire, keeping it well clear of the back blast area of the claymore. Position the center section of the wire (where the wire has been separated) in a position at least 16 meters to the rear or side of the claymore. The battery power source will be positioned at this location. THE POWER SOURCE MUST BE LOCATED WHERE ACCIDENTAL FIRING OF THE CLAYMORE WILL NOT ENDANGER THE PERSON CONNECTING OR DISCONNECTING THE SOURCE. Insert the electrical blasting cap in the claymore. Secure the firing wire so that accidential tugs will not dislodge the claymore.

f. Additional claymores may be installed along the firing wire, either in series or in parallel, with slight modifications to the above. The power source and trigger must always be connected in series to the claymores (See Figure 2).

CLAYMORES CONNECTED IN SERIES



CLAYMORES CONNECTED IN PARALLEL

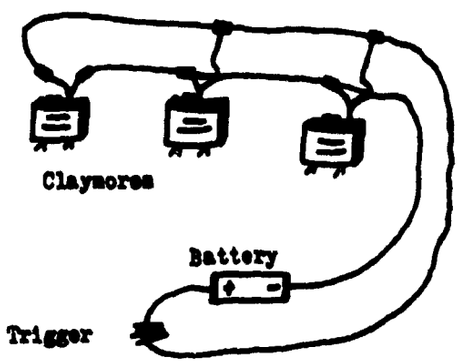


Figure 2

g. Cut the one conductor at the center section which has been separated and attach the battery. THE CLAYMORES ARE NOW ARMED.

h. To retrieve the device, FIRST REMOVE THE FIRING WIRE FROM THE BATTERY TERMINALS. Remove the blasting cap from the claymore. Retrieve the firing wire and the trigger mechanism. Protect the blasting cap with a shunt (See para 2b above).

(C) EMPLOYMENT OF THE MECHANICAL AMBUSH (U)

1. Selection of the ambush site:

a. Site the "mechanical ambush" using the same criteria used in the siting of a manned ambush. The requirement for cover and concealment for the ambush party may be reduced since the ambush site will not be manned.

b. Daily daylight reconnaissance in the area will provide specific intelligence on the movement of the enemy through the area. The direction of movement, the normal size of the party, the time of the movement and the method of movement can usually be determined.

c. Artillery and mortar support should be preplanned to rapidly react to the detonation of the "mechanical ambush".

2. Emplacement.

a. Only patrol leaders who have been well trained in the construction of the system should be allowed to establish "mechanical ambushes". The general safety precautions found in FM 23-23 for the employment of the M18A1 claymore must be observed.

b. A single ambush party may set up several "mechanical ambushes" in the area. The site determined to be the most lucrative may be manned/covered by the ambush party.

c. The manned ambush should be positioned no closer than 100 meters, nor further than 500 meters, from the "mechanical ambush". The manned ambush is capable of quickly assessing the effects of the "mechanical ambush", can prevent the enemy from disarming the claymores and is able to reinforce the "mechanical ambush" with command detonated claymores and grenades. Do not fire small arms or crew served weapons, they will compromise the location of the manned ambush. Use additional "mechanical ambushes" to protect the rear and flanks of the manned ambush (See Figure 3, page 5).

(C) SUMMARY (U)

Employment of the mechanical ambush has produced significant results in the IIFF V area of operations. Variations in employment techniques are limited only by the imagination of the local commander. Safety is a primary consideration in the employment of the mechanical ambush. Precautions previously discussed must be strictly observed.

George L Mabry Jr

GEORGE L. MABRY, JR.
Major General, US Army
Chief of Staff

1 Incl
Additional Trigger Devices

DISTRIBUTION:
C Plus
USARV G3, DST - 50
CCMUSMACV, ATTN: MACJ3-05 - 10
7th AF - 10
COMNAVFORV - 10
III MAF - 5

CF:
DA, ACSFOR, Wash, D.C. - 5
CINCUSARPAC, ATTN: GPOP-DT - 5
USCONARC, Ft Monroe, Va. - 5
USACDC, Ft Belvoir - 5
USAARMS, Ft Knox, Ky. - 5
USAIS, Ft Benning, Ga. - 5
MACTHAI, Bangkok, Thailand - 5
Eighth US Army, Seoul, Korea - 10

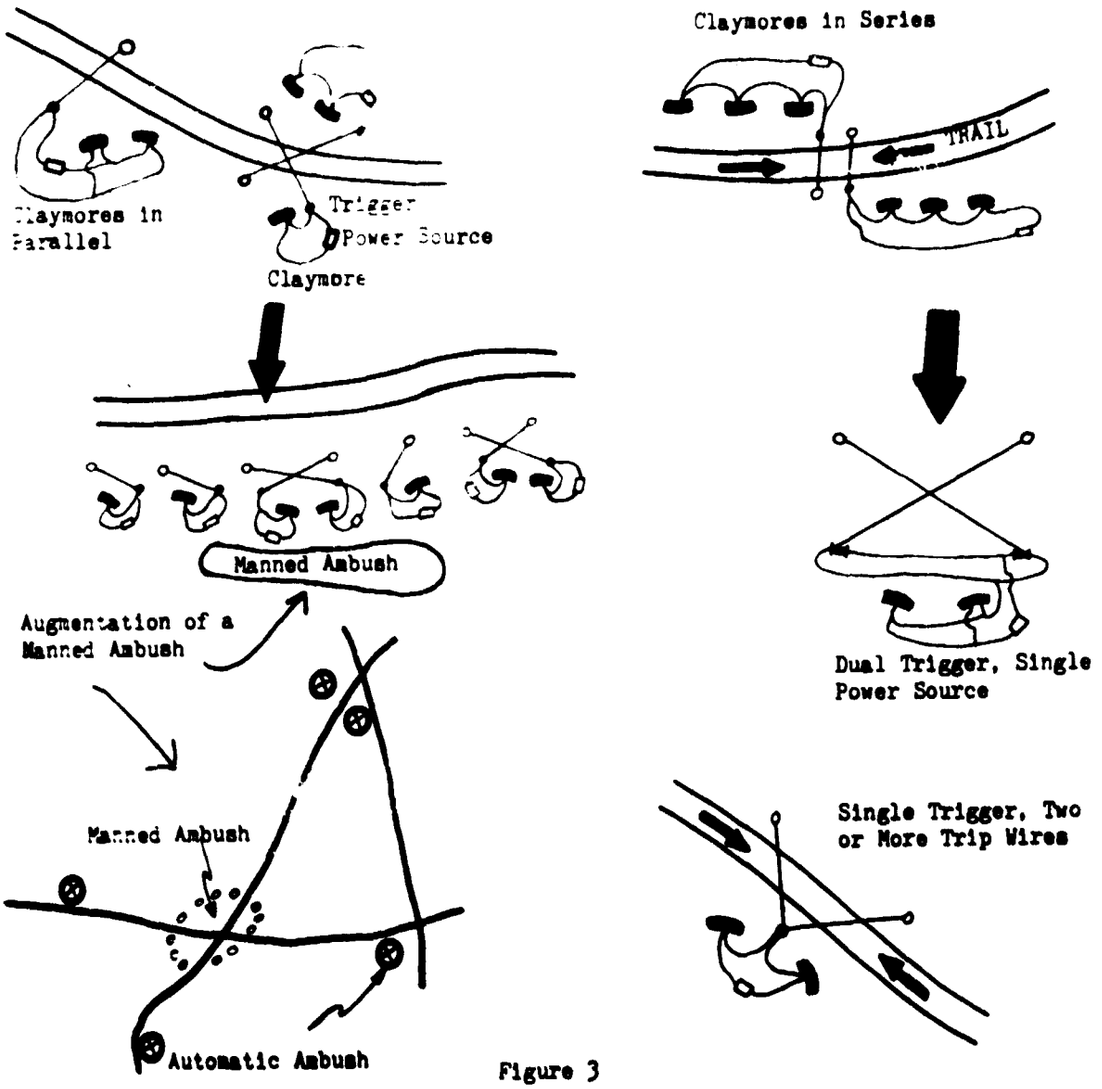


Figure 3

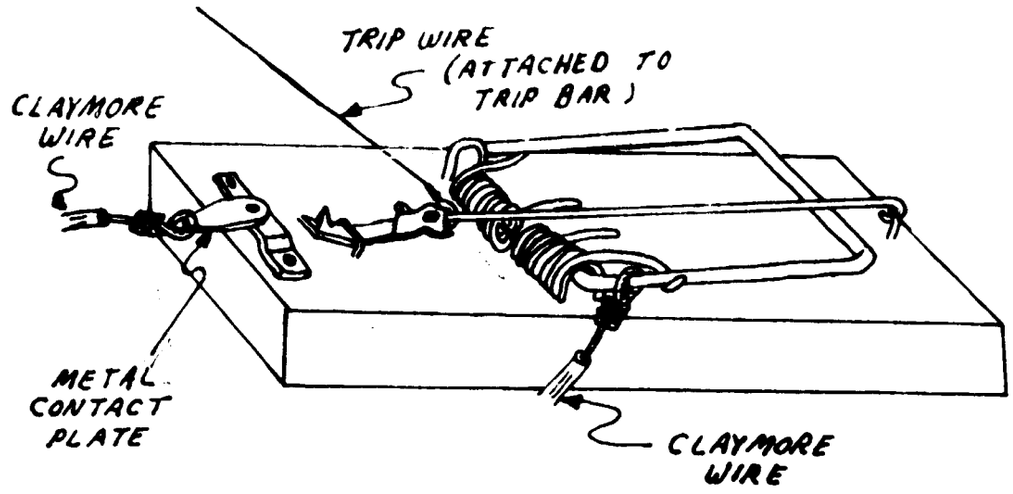
d. Camouflage should be used to prevent the enemy from detecting the mechanical ambush. Light and sound discipline and stealth and deception must be strictly enforced to deny intelligence to the enemy.

e. Insure that at least two members of the ambush party know precisely the locations of the claymores, the trigger mechanisms and the power source.

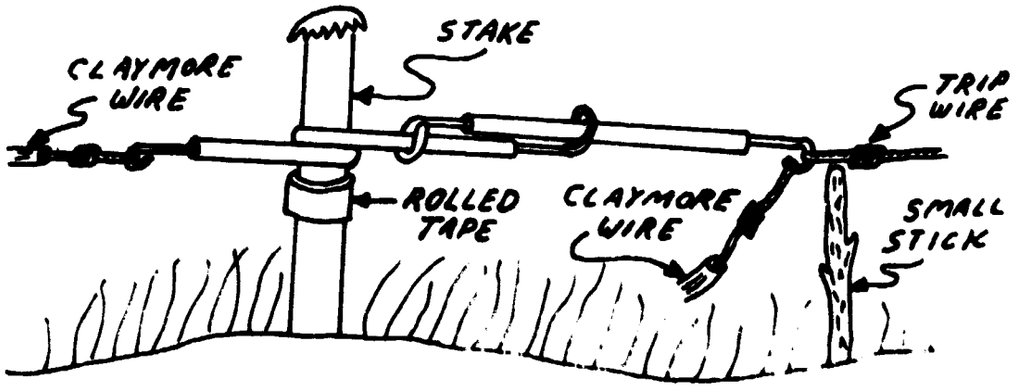
f. Insure that all mines not detonated are retrieved when the ambush is no longer required or under observation.

ADDITIONAL TRIGGER DEVICES

RAT TRAP DEVICE



SLIDING WIRE DEVICE



DEPARTMENT OF THE ARMY
HEADQUARTERS, 11th ARMORED CAVALRY REGIMENT
APO SAN FRANCISCO 96257

Regulation
Number 525-9* March 1970

COMBAT OPERATIONS

1. PURPOSE: To prescribe the procedures to be followed to obtain clearance to employ artillery, armed helicopters, and tactical air strikes. For the purpose of this regulation, the term "artillery" includes mortar, artillery, indirect tank, riverine and naval gunfire.

2. SCOPE: This regulation is applicable to all organic units of the 11th Armored Cavalry Regiment (ACR), all units under the operational control of the 11th ACR, and artillery units located within the 11th ACR area of operation.

3. GENERAL:

a. The Fire Support Element (FSE) of the Regimental Tactical Operations Center (TOC) will grant final clearance and post aircraft warning data to the appropriate Aircraft Warning and Control Center (AWCC) for the employment of artillery, armed helicopters and tactical air strikes.

b. The only exception to the requirement for final clearance from the FSE, is employment of any fire support means during contact with the enemy. Contact missions to include air data will be posted to the FSE as soon as possible.

c. The Regimental FSE will exercise tactical control of all artillery within the Regimental TAOR. The Regimental FSE will coordinate other means of fire support. The Regimental FSE will not operate a technical FDC. The respective Squadron (Battalion) Commanders and Artillery Battery Commanders are responsible for the complete double check of all firing data and fire commands.

* This regulation supercedes 11th ACR Regulation 40-1 dated Oct 69 and supplements II FFORCEV Regulation 525-9.

4. PROCEDURES FOR CLEARANCE OF FIRES:

a. The Squadron (Battalion) Commander is responsible for granting a U.S. clearance to fire within his area of operation (AO) less a buffer zone of 1000 meters inside his AO boundary. The Squadron (Battalion) Commander's designated representative, normally the Artillery Liaison Officer, will send the request for clearance to fire to the FSE including a stated clearance to fire for his own AO.

b. A request for a clearance to fire within the 1000 meter buffer zone or across a Squadron (Battalion) AO boundary will be coordinated with both Squadrons (Battalion) involved by the FSE.

c. A request for a clearance to fire within the 1000 meter buffer zone or across a Regimental (Brigade) boundary will be coordinated by the FSE with that Brigade direct support artillery battalion.

d. A request for a clearance to fire within the 1000 meter zone or across a division boundary will be coordinated by the FSE with the Division Artillery FDC and the Division FSCC.

e. GVN political clearance to fire will be obtained by the FSE from the appropriate District or Province Chief.

f. ARVN military clearance to fire will be obtained by the FSE from the ARVN Commander in whose TAOR the target is located. This clearance is normally obtained from the MACV advisory personnel assigned to the ARVN unit.

g. Special Forces clearance to fire will be obtained by the FSE or if directed by the FSE, the Artillery Liaison Officer at the Squadron (Battalion) when a target falls within the TAOR of a Special Forces unit. The most rapid means of obtaining the clearance will be utilized.

h. An ARP or LRRP clearance to fire is required when they are inserted into the Regimental AO and when a unit is firing within the 1000 meter buffer zone around the ARP or LRRP AO. All information pertaining to the ARP or LRRP clearance to fire will be transmitted on secure radio or shackled using the appropriate KAC code.

i. A log will be maintained for all missions fired showing the time, firing unit, target clearing agency and individual who granted the clearance to fire. This log will include any coordinated "clearance to fire" and air data posted for the fire mission.

5. DOUBLE CHECK PROCEDURES:

a. At the Squadron (Battalion) level a double check on clearance to fire will be accomplished by the FDO and the Liaison Officer having plotted and checked the target versus friendly locations, no-fire zones, and buffer zones on separate maps.

b. At the FSE a double check on clearance to fire will be accomplished by the Duty Officer and the Operations NCO plotting and checking the targets versus friendly locations, no fire zones, and buffer zones.

c. Repeat back communication procedures will be used on all transmissions of data.

d. Any data that is received or is to be transmitted in encrypted form will be checked by a second operations specialist.

6. AWCC PROCEDURES:

a. Air data will not be posted in clear text more than 15 minutes prior to firing.

b. Air data will be posted to the FSE.

c. The FSE will post the air data with the appropriate AWCC and inform the Squadron (Battalion) Artillery Liaison Officer when the data has been posted.

d. The NCS of the Squadron (Battalion) Command net will post air data for his AO to include the buffer zones inside and outside his AO (any coordinated clearance). This procedure is essential for safety since most helicopters have only one FM radio and do not have the capability to monitor the appropriate AWCC net at all times.

e. Helicopter pilots will check into the Squadron (Battalion) Command net prior to entering the Squadron AO and request artillery data from the NCS. The helicopter pilot will check out of the Command net upon departure from the Squadron AO. This requirement is in addition to the present requirement to check with the established AWCC stations i.e. Quan Loi Artillery, Tay Ninh Artillery, etc.

7. CHECK FIRE PROCEDURES:

a. Any person observing an unsafe situation or condition can order a checkfire. All firing will cease immediately.

b. The checkfire will remain in effect until the situation or condition has been corrected and clearance to fire has been reestablished by the FSE.

8. RULES OF ENGAGEMENT: The rules of engagement as outlined in the following documents will be strictly followed:

a. II FFORCEV Regulation 525-9, 27 Dec 68, Combat Operations.

b. 11th ACR Tactical SOP, 20 Nov 68.

9. SPECIAL CONSIDERATION: The procedures outlined in Headquarters II FFORCEV Letter AVFB-FAC, 28 January 1969, subject, Employment of Artillery Illuminations Munitions, will be strictly followed before a clearance to fire illumination munitions is granted.

10. The Squadron (battalion) Commanders are responsible for establishing policies and operating procedures to insure compliance with this regulation and the references listed in paragraph 11 below.

11. REFERENCES:

a. II FFORCEV Regulation 525-9, 27 Dec 1968

b. II FFORCEV Regulation 385-2, 2 July 1967

c. 11th ACR Tactical SOP, 20 Nov 1968

FOR THE COMMANDER:

/s/ Dennis V. Crumley
DENNIS V. CRUMLEY
Major, Armor
Adjutant

DEPARTMENT OF THE ARMY
HEADQUARTERS, 11TH ARMORED CAVALRY REGIMENT
APO San Francisco 96257

REGULATION
NUMBER 350-1

10 March 1970

11TH ACR TRNG & EDUCATION

1. PURPOSE: The purpose of this regulation is to prescribe minimum requirements for training in the Regiment. Squadron commanders may add to these requirements for the development of squadron training programs as necessary.

2. CONCEPT: In order to maintain a high level of proficiency, as well as to compensate for the loss of personnel in key positions, it is necessary for unit training to supplement the replacement training program. The training program for the 11th ACR concentrates on maintenance of material and the performance of essential combat skills, and is oriented toward applying lessons learned in Vietnam combat.

Regimental training requirements are based on the repetitive practice of certain essential skills considered necessary to maintain an adequate level of combat proficiency. This regulation identifies the essential skills and establishes the frequency of repetition considered necessary to sustain proficiency.

To the maximum extent possible, mandatory training required by USARV will be conducted by the BLACKHORSE Replacement School. Unit training will be directed primarily toward those basic skills of finding, fixing and killing the enemy.

3. BASIC SKILLS: For the purpose of this regulation the skills essential to maintenance of combat proficiency in Vietnam have been grouped into skill groups. These are:

a. Elimination of the Enemy:

(1) Target Acquisition/Identification - The ability to acquire and identify enemy targets quickly and accurately.

(2) Destruction of the enemy - The quick destruction of the enemy with minimum use of time and resources.

(3) Pacification - Assisting public officals and agencies of the GVN to expand GVN control over populated areas of the RVN by helping to eliminate the VCI, local force, and other obstructions to GVN control.

b. Mobility: Maintenance of equipment and vehicles in order to sustain rapidly and close with the enemy.

c. Survival: Maintaining that level of individual self confidence and skill necessary for individual survival and effective sustained functioning under combat conditions in the RVN. Security measures are also necessary for survival for it denies the enemy access to or intelligence of operational areas.

d. Command and Control: Includes the maintaining of those skills and equipment necessary for the accomplishment of the mission. This category encompasses all aspects of communications to include COMSEC, communication nets and control procedures.

4. SPECIAL PROBLEMS

a. The organization of the 11th ACR requires some specialized unit training for units such as the Air Cav Troop, 919th Engineer Co., HHT Scouts, and 37th MED Co., which is different from that prescribed for the squadrons. Commanders of separate units will develop training programs for their units based on the general guidance set forth herein.

b. Individual training records will conform to Inclosure 1, to Appendix 3 to Annex 2 to 11th ACR Reg 350-1, and Annex B to 11th ACR Reg 350-2. These records will be filled out on each individual upon completion of programmed training at the BLACKHORSE Replacement School, and sent to squadron rears where they will be maintained by troop/company personnel sections.

FOR THE COMMANDER:

3 Annexes
A. USARV Mandatory Training
B. BLACKHORSE Repl Schl Trng
C. Unit Proficiency Trng

DENNIS V. CROMLEY
Major, Armor
Adjutant

ANNEX A

USARV MANDATORY TRAINING

SUBJECT	FREQUENCY	SCHOOL	UNIT	DELETE	INTEGRATE
Military Justice	Anually	X			X
Psychological Opns	"	X			X
Civil Affairs	"	X			X
Safety	"	X			X
Geneva Convention	"	X			X
Code of Conduct	"	X			X
Armed Forces Censorship	"	X			X
CBR Refresher	"	X		Modified	
Character Guidance	Monthly		X		
Command Information	Weekly		X		
Qualification in Arms & Small Arms Familiarization	Anually	X			
Survival, Escape And Evasion	"	X			
Counter Sapper Training	"	X	X		X
Intelligence	"	X			
Medical Training	As Required	X			
Vietnam and Relations With the Vietnamese	"	X			X
Rules of Engagement	"	X	X		X
Supply Economy	"	X			X
Physical Fitness	"		X		X
Sentry Duty	"			X	
Riot Control	"			X	
Air Mobility	"			X	

SUBJECT	FREQUENCY	SCHOOL	UNIT	DELETE	INTEGRATE
SAEDA	Annually	X			X
Safeguarding Defense Info	"	X			X
Mines and Booby Traps	"/As req	X	X		X
Map Reading and Land Navigation	As Required	X	X		X
Adjustment of Arty, Mortar, & Tac Air	"	X	X		X
Driver Training	"		X		X
Reconnaissance and Patrolling	"		X		X
Ambush and Counter Ambush	"	X	X		X
Battlefield Police	"	X			X
Communications	"	X	X		
Army Aviation	"		X (ASO/ACT)		
PW and Detainee Handling	"	X	X		X

ANNEX - F

BLACKHORSE REPLACEMENT SCHOOL TRNG

SKILL AREAS	HOURS	REMARKS
1. Elimination of the Enemy		
a. Acquisition/Identification		
(1) Patrolling	2 hrs	Patrolling & Ambush Patrols: Organization, responsibilities, coordination control measures to include; time of dept, time of return, check points, general route, comm signals, noise & light discipline, enemy's sense of smell, need for prearranged signals, etc.. (Ref: SOP's Army Sub Scd 7-9, FM 21-75)
(2) Ambush Patrols	1½ hrs	
(3) Map Reading & Land Navigation	3 hrs	Map Reading & Land Navigation: General intro to include: symbols, colors, marginal info, types of maps, grid systems & reading co-ordinates, scale & distance & relates distance to driving. Elevation, destination, overlays written exam. (Ref: FM 21-26 Army Sub Scd 21-9, Army Sub Scd 21-21, TC 7-5 Army Sub Scd 21-40)
b. Destruction of the enemy		
(1) 50 Caliber MG		Weapons: 50 Cal MG, M60 MG, M-73, M-16, M-79 (Army sub Scd 17-14-1) Familiarization firing, M-16 Qual. and zeroing. Familiarization with M-73. Disassembly, immediate action, maintenance, techniques of fire, discipline. (50 cal -head space and timing). (Ref: FM23-65, FM23-67, FM23-31, FM23-9)
(2) M-60 MG		
(3) M-73		
(4) M-16	20 hrs	
(5) M-79		
(6) Artillery, Mortar adjustment		Artillery, Mortar Adjustment: Fire procedures, initial request and corrections. Target location, AZ, proper methods of adj. and air burst bracket. (Ref: FM 6-135 FM 23-92)

SKILL AREAS	HOURS	REMARKS
c. Pacification		
(1) Psychological operations	1-1½ hrs	**Pacification:** Psychological operations, Civil affairs, Rules of Engagement - Vietnam and relations with the Vietnamese PW and Detainee handling, Geneva Convention, ICAFS, DENTCAPS, CUSTOMS, RESPECT. (Ref: FM 33-5, FM 41-5, FM 41-10, FM 41-15, AR 350-25, MACV Dir's 37-15, 515-1, 525-17C. USARV Reg's 1-100. 230-6, 515-1, 512-2, 525-1, USARV PAM 515-1, DA Cir 521-1, DA PAM 27-1. USARV TRP Topic No. 4-66, DA PAM 20-198, DA PAMS 20-151 & 27-1 FM 21-10 FM 27-10.
(2) Civil Affairs		
(3) Rules of Engagement		
2. MOBILITY		
a. Mounted operations	1 hr	**Mobility:** Orientation, tactical formations terrain reconnaissance and security opns, the NDF. The M551 & M113, introduction crew responsibilities, maintenance. (Ref: TC 17-16 Army Sub Sed 17-131, IC 23-21 and applicable TM's)
(1) M551 Sheridan	1½ hrs	
(2) ACAV M113	1½ hrs	
b. Maintenance		
3. SURVIVAL		
a. Mines and Booby Traps	7½ hrs	**Survival:** Mines and booby traps, disposal, probing, mine sweeping or road shoulders. Use of demolition in regard to NVA/VC mine & booby traps. How enemy utilize our rubbish to make booby traps. Negotiate booby trap wires. (Ref: TC 5-31, FM 5-25, Army Sub Sed 5-6)
(1) Demolitions	4 hrs	
(2) Mine Sweeping	1½ hrs	
(3) Battlefield Police	10 min	
b. Security		
(1) Physical		PW handling, captured weapons & documents. (Ref: FM 30-5)
(a) Intelligence	1 hr	Sapper tactics, organization, mission, techniques. Historical examples perimeter defense against sappers. If possible demonstration by Kit Carson Scouts.

SKILL AREAS	HOURS	REMARKS
(b) Counter Sapper	3 hrs	(Ref: USARV Reg 350-5).
(c) SAEDA	1 hr	SAEDA: The need for constant security consciousness, being careful of what you say around hootch maids, kids, barbers. etc. Security of maps etc. (Ref: AR 381-12, USARV Reg 381-12, DA Cir 380-1.
(d) Searchlight, Night Detection equip, Starlight Scope & Anti-Intrusion Devices	2½ hrs	Night Detection Equip: Introduction, characteristics, use maintenance Demonstration of all night detection devices used by the Regiment. (Ref: AR 380-42, USARV Reg 380-42 TC 23-11, 23-13, 23-18 Army Sub Scd 23-18.
(e) Battlefield Police	15 min	Battlefield Police: Make sure the enemy dosen't use what you discard. (Ref: USARV Reg 350-1.
(2) Electronic Communications	2½ hrs	Introduction to some of basic radio's, radio telephone operator security procedures. (Ref: Army Sub Scd 33-5, 11-79, 11-36.
c. Medical	1½ hrs	
(1) First Aid, Personnel Hygiene		First Aid, Malaria, VD: Take the pill, mosquito nets. repellent life saving steps, relations w/Vietnamese short time girls. How the use of Pot & Drugs can effect your mission. AR 40-58, DA PAM 39-3, DA PAM 350-9, (Ref: FM
(2) Malaria, VD, Drugs		8-10, FM 8-35, FM 8-50, FM 21-10, FM 21-11, FM 21-3, FM 21-40, FM 21-41, FM 21-48, FM 21-76, FM 31-30, FM 31-72,
d. Escape & Evasion	1 hr	TM 3-230, TM 8-285, MEDTB 81, MEDTB 175, MEDTB 334, MEDTB 246, ATP 8-2000. Army Sub Scd. 8-12 & 8-13. AR 40-15,
(1) Water, Food		USARV Reg 40-22, USARV Reg 40-33, USARV Reg 40-29, DA Cir 40-16, USARV Reg 40-28 Army Sub Scd 21-44.
(2) Shelter		
(3) Terrain		Water, Food, Shelter, Terrain: Methods to be utilized for survival in southeast Asia. Types of plants, edible berries etc. Escape & Evasion enemy if captured. Try to escape ASAP after capture, avoid local populace, towns, villages etc. (Ref: AR 350-225, FM 21-75, FM 21-76, FM 21-77 FM 21-77a.

-14-

SKILL AREAS	HOURS	REMARKS
e. CBR:	1½ hrs	CBR: Basic inspection of M-17 & XM28, fitting of mask. Proper maintenance methods. Negotiation of CS Chamber, to test mask as well as to instill confidence. (Refs: AR 220-58, AR 612, 35, FM 21-40, FM 21-41, FM 21-48. TM 3-4240-202-14, TM 3-4240-202-20p, TM 3-4240-269-12, TM 3-240-219-15, TM 3-4240-258-14, TM 3-4240-258-20p.
(1) Mask (Inspection & Maint)		
(2) Gas Chamber (Test of Mask)		
4. Administration	2 hrs	
a. Orientation		
(1) Organization & History 11th ACR		(Refs: Historical notes - FM 17-98
(2) CO Notes		
(3) Military Justice		AR 350-212, Army Sub Scd 2-10, UCMJ Art 137.
(4) Code of Conduct		AR 350-30
(5) Geneva Convention		AR 350-216, DA PAM 20-151, DA PAM 27-1, FM 21-10 FM 27-10
(6) IG & Legal Services		
(7) Red Cross Services Available		
(8) R&R & Leave Policies		Current Reg's etc.
(9) In - house Terminology		
(10) Volunteer Programs (ARPS & Snipers)		
b. Chaplain Orientation:	1 hr	Orientation given by a Regimental Chaplain. Basic operations & services available from the Regimental Chaplains.

ANNEX C

UNIT PROFICIENCY TRAINING

SKILL AREAS	FREQUENCY	REMARKS
1. Elimination of the Enemy	QUARTERLY	In order to effectively eliminate the enemy, the individual soldier must become so proficient in the basic skills of soldiering he reacts immediately in any given combat situation in any type terrain. Much of the training can best be accomplished by on-the-job training or short simple training sessions geared to the basic skills of the soldier. (Ref: FM 21-74; FM [illegible].
a. Acquisition/Identification		
(1) Reconnaissance and Patrolling	QUARTERLY	Training will be oriented toward the Regiment's method of operation in aggressively looking for the enemy, placing emphasis on lessons learned.
(a) Combat Proficiency Course	"	
(b) Reconnaissance by Fire	"	
(2) Aerial Reconnaissance	As required	Units will emphasize actions and reactions by ACAV, Sheridan, and tank crews when a surprise meeting engagement occurs or when the enemy initiates the contact, to include battle drill type maneuvers, fire control, and target engagement. each track crew will participate in a combat proficiency course exercise. (Modified Table VIII) once each quarter. (Ref: FM [illegible]-12
		Training in reconnaissance by fire will include enemy tactics and disposition in different types of terrain and will emphasize importance of reconnaissance by fire in economy of force operations, to include the type weapon to be used and the method of employment.

SKILL AREAS	FREQUENCY	REMARKS
		The Air Cav Trp will thoroughly familiarize new pilots and observers with known and proven methods of aerial reconnaissance, stressing successful techniques based on experience factors and lessons learned.
b. Destruction of the enemy		
(1) Individual Weapons	As Required	The term "Individual Weapon" pertains to that weapon which has been assigned. Maintenance and safety procedures will be stressed. During periods of light or no contact the weapons will be zeroed and test fired a minimum of every two weeks. (Ref: FM 23-71; FM 23-31 FM 23-9)
(2) Snipers	Monthly	Personnel who have completed the 1st Team Academy, Sniper School must return to the school monthly for refresher training. At this time the snipers scope and rifle are inspected and adjusted/repaired. (Ref: 11th ACR MSG, 11-853 1813452 Nov 69, Subject: Sniper Trng; 1st Air Cav Div Sniper Trng Note, dtr 1 24 Nov 69. USARV letter, 6 Dec 69, Subject: Employment of Snipers.
(3) Crew Served Weapons		
(a) Direct Fire	Quarterly	This training will be conducted as required and will be integrated in the conduct of the Combat Proficiency Course. The unit commander will insure that all personnel are able to assemble and disassemble, set head space, etc. of the organic weapons within his unit. Training will also include techniques of fire and fire discipline. The Air Cav Trp commander will insure that his aircraft crewmen remain proficient in gunnery techniques. (Ref: Tank Gunnery. FM 17-12: AR 622-5; FM 23-67. Machinegun M60-FM 23-67.

SKILL AREAS	FREQUENCY	REMARKS
(b) Indirect Fire (mortars/Artillery)	QUARTERLY	Unit tests will be administered on a quarterly basis. Training will be on a continuous, basis. The training ar test will be administered in accordance with 11th ACR Mortar /Arty Regs. Unit and battery commanders will insure that all new personnel have successfully passed the required tests and thoroughly proficient in their duties before allowing them to operate in a position. (Ref: FM 6-40, CH 9, para 91-9-10 CH 10, para 10-1-10-31, CH 12, para 5-8, CH 10, para 12-14, CH 12, para 12-1-12-4, CH 19, para 19-21, CH 11-1-11-12 CH 13, para 13-1, FM 23-90, FM 23-92.
(4) Adjustment of Arty Mortar Fire and Tac Air.	QUARTERLY	Training will be conducted on at least a quarterly basis integrated in a practical way, eg. allowing personnel to adjust fires when registration of fires around NDP's are being conducted. Personnel to be trained will be primarily those individuals most likely to be required to call for fires eg. commanders, platoon SGT's, track commanders, etc. "Depending on the tactical situation and the area of operation, a practice contact will be conducted at least quarterly, using all available supporting and organic fires to attack a target of opportunity". (See Above)
(5) Ambush and Counter Ambush.	QUARTERLY	Units will establish SOP and conduct training on proper ambush methods and counter ambush procedures. Training, on ambushes will include subjects such as selection of sites. noise and light discipline, equipment, etc. and will be based on lessons learned. Counter ambush training can be integrated with the Combat Proficiency Course and will include battle drill. Air Cav Trp will stress scouting techniques in looking for ambush sites and those actions taken to counter ambushes. (Ref: SOP's and lessons learned).

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SKILL AREAS	FREQUENCY	REMARKS
(a) Ready Reaction Forces	QUARTERLY	Unit training will be directed toward the small unit commander and will be based on lessons learned and derived from SOP's. It will include types of missions, size of forces, and mix of vehicles to accomplish the various types of missions.
(b) Enemy Tactics	QUARTERLY	Units will familiarize their small unit commanders with the tactics of the enemy in the establishment of ambushes to include, size and shape of bunkers, size of force, etc.
c. Pacification	As Required	Commanders will utilize every opportunity to further the DONG TIEN Program by establishing and conducting formal and informal training programs and joint operations with RVNAF in their AO.
(1) DONG TIEN		
(2) PSYOPS and Civil Affairs		
(3) Relations with the Vietnamese		Each trooper must be aware of how important he as an individual is in our third and increasingly important way of eliminating the enemy through pacification. Emphasis on how much damage can be done through the irresponsible acts of individuals or units against the property or citizens of South Vietnam. This training can be integrated with the conduct of ICAP's and other civic action projects. (Ref: USARV Trp Topic No. 4-66, DA PAM 20-198, DA PAM 550-40.
(4) Rules of Engagement	As Required	Rules of engagement will be stressed as often as necessary to include which weapons can be utilized in specific areas. The term weapons applies to Arty, mortars, gunships (ACT) as well as main battle guns and individual weapons. MACV DIR 525-13/w CH-1. II FTV Reg 525-9.
2. Mobility		
a. March Discipline	As Required	Unit commander will establish an SOP on march discipline while the unit or a convoy is on the move or at a halt to include items such as sectors of responsibility herring bone formation, and quick reaction and will insure that all drivers and track commanders understand and comply with this SOP.

SKILL AREAS	FREQUENCY	REMARKS
b. Vehicle Recovery	As Required	New personnel will be familiarized with the fundamentals and principles of recovery rigging and procedures for recovery of wheeled and tracked vehicles disabled by terrain or combat. Training will emphasize those proven field expedients derived from SOP's and lessons learned by the units as related to the wet season and the dry season. (Ref: FM 20-22 Army Sub Scd 55-20)
c. Maintenance of Vehicles	As Required	It is emphasized that commanders at all levels will insure that maintenance is performed in accordance with 11th ACR Reg 750-2, 18 Feb 1970.
d. Map Reading and Navigation	As Required	All personnel will be familiarized with their area of operations as soon as possible through extensive reconnaissance operations integrating basics in use of maps and the compass and those unique techniques of navigation derived from operational lessons learned in Vietnam, eg. helicopter guiding ground elements, etcl, Also aerial navigation will be stressed for pilots, aerial observers, Squadron Commanders and S-3s (Ref: FM 21-26.
3. Survival	As Required	
a. Mines and Booby Traps		All personnel will be familiarized with the various methods of detecting and neutralizing booby traps and mines. Instruction should be as simple as possible and limited to identifying the most frequent locations; and the most frequent initiating devices. (Ref: TC 5-31, SOP's and lessons learned. TM 5-280 "VC-NVA employment of mines & booby traps".
(1) Mine Sweeping	Quarterly	Personnel will receive refresher training on familiarization and use of sweep equipment. All personnel will be familiar with unit SOP. (Ref: "Experiences in land mine warfare" "mine warfare in VN" TM 5-280.

SKILL AREAS	FREQUENCY	REMARKS
(2) Demolitions	QUARTERLY	Personnel will receive refresher training on proper method of preparing and use of demolitions. (Ref: Army Sub Scd 5-6, FM 5-25.
b. Medical		
(1) Malaria		Commanders will insure that anti malaria program is stressed, following that guidance stated in 11th ACR Commander's Memo, Subject: Malaria Control, 8 Jun 70.
(2) VD		Commanders, with the assistance of their medical personnel, will make all personnel aware of the dangers of VD and stress the control measures to be taken. (Ref: Replacement School Trng.
c. Security		
(1) Physical	As Required	Training in physical security measures is necessary for prevention of surprise attacks on NDP's FCB's and FSB's. Commanders will insure that their personnel are continually aware of and alert to the threat posed by Sappers. Counter Sapper and Automatic Ambush training will be integrated with the establishment and improvement of Fire Support bases and Night Defensive Positions when applicable. (Ref: USARV Reg 350-5.
(2) Night Detection Equipment	QUARTERLY	When practical all personnel will receive familiarization /refresher training to include a practical exercise on organic night detection equipment. Ref: Army Sub Scd 23-39, TC 23-11, AR 380-42, USARV Reg 380-42.
(a) Starlight Scopes		
(b) Anti-intrusion Devices		
4. Command & Control	As Required	Commanders will insure that operators receive refresher training as required in the following areas: COMSEC, RTO procedures, systems available for communications, and SOI & SSI instruction. OSC, 05B and selected personnel will attend refresher instruction to insure that they have a

SKILL AREAS	FREQUENCY	REMARKS
		working knowledge of operational and organizational maintenance of the AN/GRC 106 SSB Radio set and AN/FPS 5 Radar set.
5. Administrative/Unrelated	As Required	
a. Command Information	Weekly	
b. Character Guidance	Monthly	Commanders will insure all personnel are aware of [illegible] services available from the chaplain and encourage maximum usage when possible. (Refs: AR [illegible], USAIC Reg [illegible] DA Pam Series 16, DATC 16-1, 16-2, 16-3, FM 16-100.
c. Physical Training	As Required	Units will maintain a maximum amount of varied Special Services sports equipment available for use by the troops when the tactical situation permits.

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CURRENT ORGANIZATION AUTHORIZATIONS

DESIGNATION	MTOE	OFF	WO	EM	ACC	TOTAL
HHT, 11th ACR	17-055GP01	38	19	247	304	304
ACT, 11th ACR	17-077GP02	14	33	164	211	211
Armd Cav Sqdn	17-055GP01	49	6	1091	1146	3438
HHT Armd Cav Sqdn	17-057GPAC	21	6	250	277	
Armd Cav Trp	17-057GPAC	5		205	210	
Tank Co	17-027GPAC	5		97	102	
How Btry	06-037GPAC	8		129	137	
919th Engr Co	05-127GP01	6	1	242	249	249
37th Med Co	08-147GP02	9		82	91	91
521st MI Det	30-014GP02	4	7	27	38	38
33d Cml Det	03-500EP12	1		4	5	5
17th PI Det	45-500EPAC	2		3	5	5
28th MI Det	20-017EP01	1		1	2	2
398th Trans Det	55-500RP06	1	3	97	101	101
124th CS Det	29-680GP01		1	8	9	9
7th APU	12-605EPAC	1		15	16	16
UCARV auth Overstrength for DIAN		4		22	26	26
	TOTAL	231	82	4167		4495

NOTE: The MTOE's for the 1st Squadron were published in 1969, while those for the 2d and 3d Squadrons were published in 1970.

BIBLIOGRAPHY

In addition to those reports cited in paragraph 3, the following documents have also been written about events which occurred during the reporting period. They are on file in the Office of the Chief of Military History; Headquarters, Department of the Army; Washington, D. C.

Operational Report-Lessons Learned (ORLL) for period ending 31 Jan 70.

Operational Report-Lessons Learned (ORLL) for period ending 30 April 70.

Combat After Action Report for Operation Long Reach II, 5-6 Dec 70.

Combat After Action Interview Report: 15 Dec 69 contact of B/1/11 ACR and F/2/11 ACR.

Combat After Action Interview Report: 27 Dec 69, Air Cavalry Troop and 1/11 ACR.

Combat After Action Interview Report: 20 Jan 70, 2/11 ACR.

Combat After Action Interview Report: 7 Feb 70, A/1/11 ACR.

Combat After Action Interview Report: 14 Feb 70, C/1/11 ACR.

Combat After Action Interview Report: 2 Mar 70, L/3/11 ACR.

Combat After Action Interview Report: 10 Mar 70, L/3/11 ACR.

Combat After Action Interview Report: 31 Mar 70, L/3/11 ACR.

Combat After Action Interview Report: 9 Apr 70, 2/11 ACR CP.

Combat After Action Interview Report: 15 Apr 70, 1/11 ACR CP.

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